PAPERS

LAID BEFORE THE

LEGISLATIVE COUNCIL

OF

CEYLON.

1878

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PROCEEDINGS

OF THE

LEGISLATIVE COUNCIL.

Wednesday, 11th September, 1878.

PRESENT:

HIS EXCELLENCY Sir J. R. LONGDEN, K.C.M.G., President.

The Hon. Lieut.-General J. A. STREET, C.B.
The Hon. JOHN DOUGLAS, C.M.G.,
The Hon. R. CAYLEY,
The Hon. W. H. RAVENSCROFT,
The Hon. G. VANE, C.M.G.,
The Hon. F. R. SAUNDERS,
The Hon. F. B. TEMPLER,
The Hon. Lieut.-Col. A. P. FYERS, R.E.,
The Hon. W. D. WRIGHT,
The Hon. D. WILSON,
The Hon. JAMES VANLANGENBERG,
The Hon. J. P. OBEYESEKARA,
The Hon. G. A. TALBOT.

1. MEMBERS SWORN.—The necessary oaths were taken by the Hon. Messrs. Douglas, Templer, Obeyesekara, and Talbot.

2. OPENING OF THE SESSION.—His Excellency the Governor opened the Session with the following address:—

HONOURABLE GENTLEMEN OF THE LEGISLATIVE COUNCIL,

I HAVE much satisfaction in opening another Session of this Council, and bringing under your consideration several important measures.

REVENUE OF 1877.

2. The financial position of the Colony at the close of 1877 was highly satisfactory. The revenue, which had been estimated to produce 14,500,000 rupees, actually yielded 17,026,191 rupees. This was an increase of 2,350,055 rupees over the revenue of 1876, and an excess of 2,526,191 over the estimate.

3. In examining the items which compose this increase, so as to judge of the progress it indicates, it is first necessary to separate the occasional and exceptional revenue from the regular revenue on which reliance may be placed.

4. Of the items of occasional revenue, the principal is the Pearl Fishery, which in 1877 yielded a revenue of 190,337 rupees. Among exceptional receipts may be classed the sums repaid into the Treasury by various departments for stores supplied from the Colonial Store. This is in substance a mere matter of account, for the amount so paid is of course charged to the various works or services in which the stores were used. The total amount so repaid in 1877 was 815,003 rupees, shewing an excess of 148,337 rupees over the amount repaid in 1876.

5. Deducting then these two items as not forming part of the regular revenue, the nett amount of the increase in the revenue of 1877 over that of 1876 is 2,011,381 rupees. This increase is made up of the following items:—

	Rs
Increase on sales of waste lands	680,534
Increase of Railway receipts	633,261
Increase of Customs	351,691
Increase on Paddy tax	201,808
Increase in smaller branches of revenue	144,017

6. The increased sale of waste land is very satisfactory, not only as shewing that the area of cultivation is being extended, but also as an indication of confidence in the future of Ceylon.

7. The increase in railway receipts is partially due to the opening of the new railway to Pánaduré, but partially only, for there is a very substantial increase in the receipts of the main line, denoting a corresponding increase in the interior trade of the Island.

8. The increase in the duties on imports is the necessary result of an expanding trade. The total value of imports into Ceylon in 1877 amounted to 62,783,676 rupees, and the value of our exports to 61,120,540 rupees. It is satisfactory to find that the import trade has increased

by nearly six per cent. It is still more satisfactory to find that the value of the exports, on which the wealth of every tropical colony most largely depends, has increased in a single year by more than twenty-five per cent. The greater part of this increased value consisted in the quantity of coffee exported, which in 1876 amounted to 673,490 cwts., and in 1877 to 974,333 cwts., shewing in that year an increase of 300,843 cwts. The young industry in cinchona bark shewed a most gratifying increase, from 14,932 lbs. in 1876 to 74,127 lbs. in 1877. That ancient industry of Ceylon, the cinnamon trade, shewed a small increase, and the exports of cocoanut oil advanced from 1,651,881 gallons to 2,653,182 gallons.

EXPENDITURE OF 1877.

9. The expenditure authorized in the general estimate for 1877 amounted to 14,383,159 rupees; but various causes made large supplemental provision necessary, and a further sum of 2,221,002 rupees was appropriated, making a total of 16,604,161 rupees. The actual expenditure was 15,330,839 rupees.

10. As compared with former years, the expenditure of 1877 was greater than that of 1876, by 1,710,249 rupees. Of this increase no less than 444,963 rupees was on roads and bridges, including sums amounting in all to 251,434 rupees, granted for relief works in consequence of the distress in the Northern Province. The expenses of purchasing stores for the Colonial Store exceeded the expenditure of 1876 by 305,181 rupees, but as I have before remarked, this is almost entirely a matter of account, the cost of the stores being repaid out of the votes to the various departments to which they are issued. The extension of railways and of the traffic on them caused an increase of 322,905 rupees in railway charges, which is amply covered by the increased revenue yielded by the railway. The cost of the medical establishments and hospitals was greatly increased by the spread of cholera, supposed to be introduced by the famishing people who come in large numbers from India. The total sum spent in medical establishments, hospitals, and immigration, rose from 594,582 rupees in 1872 to 928,405 rupees, being an increase of no less than 333,823 rupees.

11. Reviewing the actual revenue and expenditure of 1877 together, the result is satisfactory, notwithstanding the excessive amount of the supplementary estimates; the revenue exceeding the expenditure by the sum of 1,695,352 rupees.

REVENUE OF 1878.

12. The revenue of the first half of the present year, though equal to the estimate, has somewhat declined as compared with the revenue of 1877; and though it may be expected to recover towards the end of the year, the revenue of the whole year will probably fall somewhat short of the revenue of last year. The decline is not serious, but it may be accepted as a warning that the limit of prudent expenditure has been nearly reached, and though great public improvements are urgently called for, and some cannot be delayed without loss and suffering, yet it is necessary to proceed cautiously, and for the present at least to keep the expenditure as low as the public welfare will permit.

ESTIMATES FOR 1879.

13. The estimates which will be laid before you for 1879 have been framed with this necessity in view.

Establishments.

14. Under the head of "Establishments" it has been necessary to provide for the increase of salary which, as I stated in closing the last Session of the Council, had, upon the representation of my predecessor, been granted to the first three classes of the Civil Service.

15. The Secretary of State has still under his consideration the case of some officers, not holding offices in the Civil Service proper, who on different grounds have claims to be considered favourably.

Additional Magistrates.

16. I have found it necessary after much consideration to place upon the estimates provision for an additional Magistrate in the Matara District, to assist the Police Magistrate there. This appointment is absolutely necessary to prevent the vexatious delays occasioned by the multiplication of cases beyond the power of a single Magistrate to dispose of with sufficient rapidity to prevent the accumulation of arrears. I have, also, in consequence of the representations that I have received from the inhabitants of Dunbara, replaced upon the estimates provision for a Magistracy at Panwila, the discontinuance of which since 1874 has been found extremely inconvenient in that increasingly populous district.

Police Force.

17. The insufficiency of the Police Force maintained in the City of Colombo has for years been pressed upon the attention of the Government, and after fully considering the case I have come to the conclusion that the force ought to be increased, and provision has accordingly been made in the estimates for an additional superintendent, an inspector, 22 serjeants, and 111 constables. A portion of the cost of this additional force will be repaid by the Municipality. I also propose to place an assistant superintendent at Badulla to assist the superintendent of the Central Province in the charge of the police in Uva.

Hospitals.

18. It has been found necessary to enlarge the vote for our hospitals, which have been filled in many cases to overflowing during the last and present year. This is no doubt due in very great measure to the great sickness which has prevailed among the immigrants from India, the result of the privations that they suffered during the famine. Thousands of these people, who came over with health impaired, unable to work, were admitted into our hospitals; and even when fed and attended to, had scarcely strength to recover. It is to be hoped that this special cause of increase to our hospital population will soon cease; but there is another and perhaps more satisfactory cause of the increase in our hospital expenses, to be found in the greater readiness with which our native population now seek the relief afforded in the civil hospitals. The usefulness of these hospitals is thus being gradually extended, and at the same time improvements are being introduced for the better care and comfort of the patients. Among these improvements I may notice the new school for nurses established at the Colombo Hospital, under the superintendence of a lady who has made nursing the sick her special study in England, for the training and instruction of nurses who will hereafter be employed in our provincial hospitals.

Lunatic Asylum.

19. In connection with this subject, I think it right that I should explain how it happens that the new asylum for lunatics, for commencing which provision was made by the Council last year, has not been commenced. The delay has been made necessary by the objections which the Secretary of State, after consultation with the Commissioners of Lunacy in England, made to the plans for the new building, which were prepared here and sent to England by Sir William Gregory for approval. The objections to that plan, which was founded upon an Indian model, made it necessary to substitute new designs altogether. These have been prepared upon what is known as the Pavilion system, under which the patients are accommodated in a series of buildings connected with each other by passages, but in other respects entirely separate, so as to secure abundant ventilation to every part of the building. The new plans have been submitted to the Secretary of State, and when approved, the building will be begun without delay.

Flood Outlets.

20. Among the other public works which it is proposed to undertake next year, the most important above all is the work known as Flood Outlets. In fulfillment of the promise given by the Government in the last session of the Council, careful enquiries have been made by the officers of the Public Works Department as to the best method of preventing the damage which is at present periodically done when the Kelani and Kalu-ganga rivers overflow their banks. I need not detain the Council by repeating on this occasion the uniform tale of destruction of property, ruin of huts, loss of crops, and sufferings of the people, by which each of these overflowings has in a greater or less degree been accompanied. The last flood occurred only a few weeks ago, and will be in the recollection of all. Each flood leaves behind it not merely the pecuniary losses involved in the destruction of property, but also the seeds of intermittent fever and organic disease among the people who live in the flooded districts. The reports on this subject laid before the Council in 1872 disclosed the magnitude of the task to be encountered, if any effectual relief is to be given; and the Council will not be surprised to hear that the Director of Public Works has estimated the total cost of a complete scheme at no less a sum than 3,473,000 rupees. The principal work which the Director proposes is the excavation of a canal from the Kelani river at Ambatale to the sea. This great work is estimated to cost 1,430,000 rupees, and if as successful in its operation as it is hoped, it will probably be unnecessary to proceed with some of the subsidiary works. The canal will be commenced at the seaward end, and will be made use of after the first mile has been opened for the purpose of draining the Cinnamon Gardens and the lands immediately round Colombo, without waiting for its completion. The surveys and levels that have been made and taken for this work will be sent to England; and if upon examination by experienced engineers there the scheme should be approved, I propose that, with your consent, the work should be commenced without delay, so as to secure immediate relief. For this purpose I have caused to be inserted in the estimates which will be laid before you a sum of 150,000 rupees, and it is proposed annually to devote such sums as can be properly appropriated for carrying on this much-needed work.

Kelani Bridge.

21. In connection with this question of Flood Outlets the Director of Public Works has at my request submitted an estimate for an iron bridge over the Kelani river in place of the inconvenient and perhaps dangerous Bridge-of-Boats, which is no longer sufficient for the increasing trade of the capital. The necessity of this work has been urged upon the Government by the Municipality of Colombo, and I think that it will be generally admitted that it is a work which, for the convenience and safety of the inhabitants of Colombo and the neighbouring districts to the north of the river, ought not to be delayed much longer. I have therefore caused provision to be made in the estimates for commencing the work next year.

Roads.

22. The construction of new roads must for some years continue to occupy a foremost place among public works.

23. The intended construction of the Nanu-oya railway makes it necessary to open new roads of approach to the several stations, and one of the most important of these approaches will be a cart road in continuation of the present Lorne road to the site of the Nanu-oya railway station, and thence to Nuwara Eliya, thereby placing the great district of Dimbula in easy communication with the intended station and with Nuwara Eliya, and also bringing Uda Pussellawa into communication with the railway. A vote will be proposed for commencing this useful work at once.

IRRIGATION.

24. It is proposed to appropriate again the same amount for irrigation purposes, the repair of village tanks, and the execution of other irrigation works, as was allowed last year. The total vote asked for is 414,500 rupees, exclusive of the salaries of officers now borne on the establishment.

25. The usual statement of the appropriation of the vote for 1878 will be laid upon the table. It was necessary to alter the appropriation which was proposed last year, on account of the great damage done to the tanks in the Eastern Province by the tremendous floods caused by the unusually great rainfall in that province in January last. In these floods the Rugam tank was partially, and the Devilana tank wholly, breached; more or less damage was done to five other tanks; and the repairs were estimated to cost 47,000 rupees, which has been charged against the general vote for irrigation works for the present year. These disasters shew the necessity of more solid work in all our irrigation schemes.

RAILWAY EXTENSION.

26. The vital question of railway extension has largely engaged the attention of the Secretary of State as well as that of the local Government during the recess.

Matale Branch.

27. The contract for the line to connect Matale with Kandy was let early in the year on satisfactory terms. The work was formally commenced on the 28th of June in the presence of a large gathering of people of all ranks, who shewed a great interest in the undertaking.

Nanu-oya Branch.

28. In laying before the Secretary of State at the end of last year the resolution in which this Council expressed the opinion that the long delay in the commencement of the extension to Dimbula and Matalé had been detrimental to the interests of the Colony, I urged that the extension of the line from Nawalapitiya to Nanu-oya should be taken up at once as a separate work, without waiting for the completion of the survey of the extension to Badulla, on the ground that it was most desirable to avoid the further delay which would be entailed by waiting until the survey was completed, and also on the ground that whether the extension to the town of Badulla should prove to be financially practicable or not, the line to Nanu-oya was an immediate necessity.

29. The Secretary of State, having received the reports of the Consulting Engineer, approved of the construction of the line being undertaken, if satisfactory arrangements could be made to ensure that the general revenue of the Colony should not be hereafter subjected to any considerable charge on account of the railway.

30. The cost of the section between Nawalapitiya and Nanu-oya, including the contemplated improvements, was finally estimated at £24,000 per mile, equivalent to a capital sum of 10,750,000 rupees.

31. The report of the Railway Commission made in August, 1876, shewed that the total nett profit to be derived from carrying passengers and goods on this line at the present traffic rates was 346,641 rupees. Assuming that the traffic has increased since 1876 so as to produce at present 400,000 rupees, still this would give five per cent. on a capital of only 8,000,000 rupees; and it became necessary to consider by what means the profits of the railway could be increased so as to make the line self-supporting. It is obvious that the most equitable mode of doing this was so to increase the rates as to produce the necessary sum. By this arrangement those for whose special benefit the line is to be made will bear the necessary charges. Accordingly, the Secretary of State, after reviewing the other means by which the additional charge could be met, requested that the Railway Commission should consider and report as to the possibility of making such an increase to the traffic rates as would cover the deficiency without risk of loss from competition with carts, and without danger of causing hindrance to the full development of traffic.

32. The Planters' Association, in the meanwhile, had come to a resolution "to recommend to the Government, and to support the Government in proposing, that until the railway is completed to Hapatale, rates for traffic should be fixed at a figure that will meet the required amount of six per cent."

33. The Railway Commission having assembled and taken evidence, has submitted a table of rates, which it is calculated will yield from the land now in cultivation a nett profit of 647,335 rupees, being a trifle over six per cent. on the capital required to build the line. The report of the Commissioners has been submitted to the Secretary of State, and will be laid on the table. One of the assistant surveyors has been sent home to assist the Consulting Engineer by his local knowledge in drawing up the specifications for the line, upon which tenders can be invited. The remaining surveyors, except those on the Badulla section, are now employed in laying out the Hatton deviation, which must be completed before tenders for the construction of the line can be invited.

Haputale Branch.

34. The next section of the proposed railway is the extension from Nanu-oya to the Haputale Pass. This line has been fully surveyed and laid out, and the plans and sections have been prepared and transmitted to the Secretary of State for examination by the Consulting Engineer. The reports of the Chief Engineer and his assistants will be laid on the table.

35. This extension, which is about 25½ miles long, ascends from the Nanu-oya station to a pass in the great mountain chain under Totapola, which is crossed at a height of 6,215 feet. The line then descends through the Ohiya Valley, traversing a most difficult country, to Haputale.

36. The cost of constructing this extension is estimated by the surveyors at 6,886,678 rupees, which, taking the rupee at 1*s.* 10½*d.*, is equivalent to £25,335 per mile, being £1,335 per mile more than the cost of the Nanu-oya extension. This high estimate will not surprise any members of the Council who are acquainted with the extremely rough character of the mountain chain which this railway must necessarily cross.

37. The Planters' Association of Uva submitted to the Government a resolution which they had passed, asking that the railway extension to Haputale should be urged forward with a view to its continuance to Ella, or Badulla if practicable, and added that the matter of enhanced rates should be settled in any way that might be thought most desirable to meet the required nett profit of 6 per cent. on the outlay.

38. I accordingly requested the Railway Commission to examine and report what charges could be properly placed upon the traffic between Nanu-oya and Haputale without fear of competition with cart traffic viâ Ratnapura. The Commission having examined the traffic returns, report that, if the same rates per mile be imposed upon the traffic between Nanu-oya and Haputale as have been proposed for the traffic between Nanu-oya and Nawalapitiya, the probable traffic from land at present under cultivation will yield a profit of 176,506 rupees, being equivalent to 4·13 per cent. on the outlay. But as the Haputale traffic will necessarily pass over the Nanu-oya-Nawalapitiya section, *if* the railway is made but not otherwise, it is fair to take into consideration the profit which will thereby accrue to that section. This is estimated by the Commission at 363,063 rupees, equivalent to 5·25 per cent., making a total return of 9·38 per cent.

39. Taking the whole extension from Nawalapitiya to Haputale as a single scheme, the traffic is estimated to yield from the proposed rates a total nett profit of 1,293,967 rupees, equivalent to 7·33 per cent. on the total estimated cost, which is 17,638,676 rupees.

40. The Commissioners have included in their estimate of the traffic from Haputale the coffee raised in the districts of Monaragala, Madulsima and Hewa Eliya. It is perhaps questionable, considering the distance of these districts from Haputale, to what extent they will use the railway, if it stops there. The cultivated area of these districts is, however, at present comparatively limited, not exceeding collectively seven thousand four hundred acres, and if even half this traffic were diverted from the railway, the estimates of the traffic would only be reduced by about a quarter per cent.

41. With these full estimates before us, both of the probable cost of constructing the railway to Haputale, and of the probable returns of the traffic, and the profit likely to be realized, I feel no longer any hesitation in recommending that the extension of the line to Haputale should be sanctioned.

42. The estimates of the traffic receipts have been properly confined by the Railway Commission to the traffic on the extension itself, without reference to the main line; but it is not to be overlooked that the whole, or nearly the whole, of the Haputale traffic will be a clear addition to the present main line traffic, and add proportionately to the revenue.

43. The extension of the railway into Uva will do more than merely meet the present wants of the coffee districts; it will make it possible to cultivate new lands, and will encourage the native population to develop the resources of that extensive province by opening new markets for their produce. In a remarkable memorial which I received from native merchants in Badulla, pressing for the railway, it is stated that "in a great many instances" during the last year, fifty to eighty days have been occupied in the transport of goods to Badulla. Such a fact shews in the strongest light the advantages which the railway would give to the internal trade of the Colony.

Badulla Branch.

44. The survey of the extension from the Haputale Pass to Ella and Badulla has been nearly completed, but the estimates have not yet been laid before me. The country over which this line must pass is so rough that it is not probable that the cost per mile will be much less than that of the Haputale extension, and it will hereafter be a question whether the probable traffic will justify the extension of the line beyond Haputale.

45. In all the calculations made of the probable traffic on the extension from Nawalapitiya to Haputale, the perpetual cultivation of at least the present area of the coffee plantations is tacitly assumed. Whatever may be the future of the tea or the cinchona plantations, the traffic for the present must mainly depend upon coffee. And while it is perhaps unfortunate that we should have to rely so greatly on one product alone, it is at the same time impossible to overlook the discouragement which has been engendered by the spread of leaf disease among the plantations, and the diminished produce of this year's crop. I do not however believe that the evil is so serious as to be likely to lead to the abandonment of coffee planting. In every part of the world agriculture is subject to vicissitudes as great as any which have affected us in Ceylon. In the temperate climates of Europe and America bad harvests are only a little less frequent than abundant ones; and in the tropics, whatever the kind of crop may be—whether sugar-cane, or cocoa, or coffee—each is

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alike liable to variations as great as any that have occurred here. Where the climate and soil of a country are favourable to the growth of any product which can be exported at a remunerative price, all experience tells us that the cultivation of that product will be pursued in spite of temporary ill-success or individual losses. I may instance as an example the tenacity with which the cultivation of sugar and cocoa has been pursued in some of the West Indian colonies in spite of many adverse influences. The practical question here, limited to the narrowest monetary bearing is, Will the cultivation of coffee last for the number of years which must elapse before the loans contracted and to be contracted for the railway are paid off? That it will do so, there is little room to doubt, as far as it is possible to judge from the experience of other colonies; but there is a more solid ground of assurance to be found in the continued purchase of Crown land, year after year, which may be accepted as a sure sign of the confidence which is felt by the public of Ceylon itself.

Coast Railways.

46. The railway extensions on the sea-coast from Colombo to Kalutara promise to be both profitable and useful. Although the line to Moratuwa was opened only on the 1st of March, 1877, and the extension to Pánadurá on the 1st of September, and although the line was entirely dependent on passenger traffic, yet the receipts for the year 1877 shewed a clear profit of 41,468 rupees, equal to a return of 5½ per cent. per annum.

General Railway Revenue.

47. The total receipts of the Ceylon Railway and its branches for the year 1877 amounted to 3,611,940 rupees, and the nett profits were 2,375,726 rupees, equivalent to more than eleven per cent. on the capital expended in the construction of the several lines.

Extensions in Low Country.

48. These results may well encourage judicious railway extension in districts where the traffic and commerce are sufficient to yield a fair revenue above working expenses, and several requests have been made to the Government for further extension in the low country. Of these requests the most important are,—the construction of a short line through the city of Colombo to Mattakuliya, the extension of the Kalutara railway to Bentota, the connection of Negombo with the main line by a railway to Henaratgoda, and a line to connect Polgahawela with the capital of the North-Western Province. The Mattakuliya line is under consideration, but the course of the line has not yet been definitely decided upon, and more information is required, both as to its probable cost and as to the revenue to be derived from it; before a decision can be arrived at. Of the other extensions, the line from Polgahawela to Kurunégala has the first claim to consideration, both from the populousness and present trade of the district. There is every reason to believe that a branch line to Kurunégala will both be a financial success and will aid materially in the development of the industries of the North-Western Province; and I propose to cause a survey to be made of the country, and estimates to be prepared of the probable cost of this branch, and of the traffic, with the view of submitting to the consideration of the Council, if the Secretary of State should approve of it, the expediency of proceeding with this work, after the railway to Kalutara is completed and opened for traffic.

RAILWAY CONSTRUCTION FUND.

49. For the present year the Council will only be asked to appropriate the usual sum of 300,000 rupees to the Railway Construction Fund. This Fund, including the vote of 300,000 rupees in the estimates of 1878, amounts to one million rupees. It is proposed to raise the whole of the capital required for the Nana-oya extension by loan, but to charge upon this fund the cost of the Railway Extension Surveys, which now amount to about half a million rupees. The remaining half million, together with the appropriation to be made this year, will be available for such extension as may be ultimately decided upon.

IMMIGRATION FROM INDIA.

50. The Commission, which was appointed in 1877 to inquire whether it was advisable to alter the route by which Malabar coolies seeking employment on the coffee estates travel from the coast to the Central Province, having reported that the Dutch Bay route possessed many advantages over the route now used, the Director of Public Works was requested to furnish estimates of the probable cost of the buildings which it would be necessary to erect for the accommodation of coolies, if that route should be opened. These estimates will be laid before the Council, together with reports on the route by the Government Agent of the North-Western Province and by the Principal Civil Medical Officer. My Government has also been in correspondence with the Agents of the British India Steam Navigation Company, as to the terms upon which coolies can be conveyed by their steamers between Tuticorin and Dutch Bay; and if a satisfactory settlement can be arrived at, there is little doubt that this route will be extensively, and in time exclusively, used, for it possesses many advantages over the longer route by the North road. But I do not think that it would be expedient to incur any of the heavy expenses necessarily incidental to the opening of this route, unless a satisfactory arrangement for securing a sea passage by steam can be made. Papers on this subject will be laid before you.

LEGISLATIVE COUNCIL.

INLAND TELEGRAPHS.

51. Our inland telegraph continues to be worked under the Indian Telegraph Department as part of their general system. The heavy annual loss on the working of the Ceylon telegraphs, which was brought under the notice of the Council in the correspondence laid upon the table during the last Session has, I am glad to say, been diminished; and I have caused propositions to be made to the Indian Government which will, I hope, lead to a continuance of the present arrangements; for I think that, on the whole, the balance of advantages is rather in favour of that arrangement than of taking back the direct management of the telegraphs by this Government. These propositions are still under the consideration of the Indian Government.

GRAIN TAXES.

52. The most important measure of legislation that will be laid before you in the present Session is a Bill founded upon the report of the Commission appointed to inquire into the taxes on home-grown grain and the Customs duties on imported grain. The Secretary of State for the Colonies, after recording his sense of the ability with which the Commissioners have drawn up their report, and the care which they have evidently bestowed upon it, concurs substantially in their conclusions, considering that the advantages which all classes derive from the active prosecution of roads, railways, irrigation, and other public works, are so great that it would not be expedient at the present time to abandon so important a source of revenue as the grain taxes, without raising any equivalent revenue from which the great public improvements now in progress could be carried on, and considering further, that no tax, that appears to be practicable, would yield an equal amount of revenue. But, while assenting to the retention of the grain taxes, the Secretary of State entirely disapproves of the method of collection, and sees no reason to doubt the soundness of the conclusion expressed by the Commissioners in the final words of their report, that "the present renting system is indefensible in principle, is open to abuse, and has actually led to abuse." The object of the Bill which will be laid before you is, primarily, to abolish the renting system, wholly and absolutely, and to substitute other methods of collecting the tax which shall not be liable to abuse. The system of commutation which is already universal throughout the Central Province, affords a useful precedent for a new system, and a strong inducement will be held out to the farmers of the other provinces to commute, by offering advantageous terms; but there may be cases in which commutations for terms of years will be impracticable, and the Bill therefore provides for such cases. It is to be hoped that by degrees a fixed money payment will everywhere be substituted for the tythe, and that under this system, and with the aid of the restored irrigation works and cheap transport, the cultivation of paddy will be enlarged until the Island produces sufficient to support both its immigrant as well as its native population.

OTHER LEGISLATION.

53. The other legislative measures, though very necessary, are not of the same importance.

54. It has been found expedient to amend the laws for the protection of the public forests, for the regulation of postal matters, and for amending the law as to immigrant vessels, and Bills will be laid before you for dealing with these matters.

55. I had hoped to bring before you in the present Session a Bill to amend the Ordinance of 1872, providing for the medical wants of the coffee districts, but a Commission which, at the request of the Planters' Association, I appointed to inquire into this subject, have not yet made their report.

56. Another important measure has also been deferred,—the Administration of Justice Ordinance. It has been proposed that, in lieu of proceeding to enact the Bill which has been already prepared, the whole criminal law of the Colony should be revised, and a penal code, framed on the model of the penal code of India, and adapted to the wants of the Colony, should be framed, and also complete civil and criminal procedure codes. In view of such a great reform in the law, of the expediency of which there can be no question, it would be useless to ask the Council to undertake the labour of enacting an important Ordinance which would be superseded in a short time by the proposed new code.

SCIENCE AND LITERATURE.

57. The archæological investigations, which were interrupted by the lamented death of Dr. Goldschmidt, have been taken up by Dr. Müller. That important literary work, the editing and translation of the ancient chronicles of Ceylon, is being carried steadily on by the learned men to whom it has been entrusted, and will I trust soon be completed.

CHANGES IN THE COUNCIL.

58. No one took a greater interest in this work than the late member for the Sinhalese community, Mr. De Alwis, and I am sure that the Council will concur with me in deploring the death of one, whose learning and abilities not less than his special knowledge of the opinions and feelings of his countrymen, gave great weight to his advice.

59. We have lost also the able assistance of the late Lieutenant-Governor, who has retired from the Public Service at a time when his experience would have made his services more and more valuable.

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ADDRESS TO THE PRINCE OF WALES.

60. During the recess, the address presented by this Council to His Royal Highness the Prince of Wales on his memorable visit to Ceylon in 1875, engraved on plates of gold by a native artist, in English, Sinhalese and Tamil, was, after a long delay, completed; and I at once forwarded it to the Secretary of State, that it might be laid before His Royal Highness in a suitable manner; and I have received the Prince's commands to convey to the Council His Royal Highness' thanks for that valuable and interesting specimen of Ceylon manufacture, prized by His Royal Highness, not for its intrinsic value only, but more especially as a memento of the hearty welcome he received from all classes during his stay in the Island.

61. In a great and populous country like Ceylon, there must always be many interests, many subjects, to which the attention of the Government is directed, which cannot be adequately noticed in an address like this, which deals chiefly with those matters to which the attention of the Council will be given; and it is not to be inferred that subjects to which no allusion is made have therefore been overlooked or neglected. It only remains now for me to express a fervent hope that, under the Divine Providence, our deliberations and acts may secure the welfare and increase the happiness of the people of this beautiful Island.

3. His Excellency the Governor having retired, the chair was taken by the Hon. Lieutenant-General J. A. STREET, C.B.

4. ADDRESS IN REPLY TO HIS EXCELLENCY'S SPEECH.—The Colonial Secretary moved that the following gentlemen be appointed a Sub-Committee to prepare an Address in reply to His Excellency's Speech:—The Hon. the Government Agent, Western Province, the Hon. the Surveyor-General, the Hon. the Principal Collector of Customs, the Hon. J. VanLangenberg, the Hon. J. P. Obeyesekara, and the Hon. G. A. Talbot.

Seconded by the Queen's Advocate.—Carried.

On the motion of the Colonial Secretary, the Council at its rising adjourned to Wednesday, the 18th instant, at 2 o'clock P.M.

Sept. 18, 1878.

Wednesday, 18th September, 1878.

1. The Council met pursuant to adjournment. The Hon. the Colonial Secretary took the chair.

2. Proceedings of the last meeting read.

3. ADDRESS IN REPLY TO THE SPEECH OF HIS EXCELLENCY THE GOVERNOR.—The Hon. the Government Agent, Western Province, brought up the draft address in reply to the Speech of His Excellency the Governor, which was read by the Clerk of the Council:—

MAY IT PLEASE YOUR EXCELLENCY,

1. THE Legislative Council tender to Your Excellency their best thanks for your address, and congratulate you on the satisfactory financial position of the Colony at the close of the year 1877. They are glad to find that the revenue of the first half of the present year is equal to the estimate, and that its decline as compared with the revenue of the same period of 1877 is, in Your Excellency's opinion, not serious. They hope there will be no necessity on this account to postpone any public improvements of an urgent character.

2. The Council notice that it has been found necessary to enlarge the vote for hospitals, but they learn with satisfaction that this increased expenditure has been the means of alleviating the great sickness which has prevailed among immigrants from India, and that the native population are availing themselves more generally of the relief which the hospitals afford. The Council consider that the establishment of a training school for nurses at the Colombo hospital under experienced European supervision cannot fail to be of public benefit. They are glad to hear that the building of the Lunatic Asylum will be begun as soon as the plans have received the approval of the Secretary of State.

3. It is gratifying to know that the important subject of Flood outlets has received the attention of Government, and the Council trust that the reference to England will not cause any serious delay in the commencement of the works connected with the scheme.

4. The proposed permanent bridge over the Kelani-ganga is in the opinion of the Council a very necessary work.

5. They recognise the importance of continuing the construction of new roads, and hear with satisfaction that it is proposed to take a vote this year for the completion of the road to connect Dimbula with the intended railway station at Nánu-oya and with Nuwara Eliya.

6. The Council congratulate Your Excellency that so important a work as the Matale Railway has been begun; and are glad to learn that the Railway Commission have been able to suggest, with the concurrence of the planters, such traffic rates as to justify Your Excellency's recommendation that the Nanu-oya section should be immediately undertaken. The Council are also pleased to find that the traffic on the proposed extension to Haputale will give such a high rate of interest on the estimated cost of the work, as to lead to the hope that there will be no delay in commencing so important a section of the line.

7. With reference to the traffic on the new railways, the Council concur with Your Excellency in thinking that leaf disease will have no permanently bad effect on the coffee enterprise.

8. The Council are pleased to hear of the satisfactory results of the working of the Coast railway, and that Ceylon railways generally are so profitable. Your Excellency's policy regarding the further extension of railways in the low-country is warranted by the good returns already obtained from the existing Coast line.

9. The Council are glad that the report of the Commission appointed to enquire into Cooly Immigration has received the attention of Government, and will be prepared to consider any papers which may be laid before them on this subject.

10. It is satisfactory to learn that the annual loss on telegraphs has been diminished, and the Council trust that the result of the reference made to the Indian Government will soon be announced to them.

11. The Council will consider with the attention its importance deserves, the proposed Bill relating to Grain taxes, and will also give careful consideration to the other legislative measures mentioned by Your Excellency.

12. They hear with pleasure that the archæological investigations commenced by Dr. Goldschmidt are being carried on by his successor, Dr. Müller, and that the translation of the ancient chronicles of Ceylon is also being continued.

13. The Council join with Your Excellency in deploring the loss which they, in common with the general community, have sustained by the death of the Sinhalese member, Mr. De Alwis, and fully concur in the tribute paid by Your Excellency to the assiduity, learning, and ability of their late colleague.

14. In conclusion, the Legislative Council assure Your Excellency that they are prepared cordially to co-operate with you in all your efforts to advance the prosperity of the Island and to secure the welfare of the people.

On the motion of the Hon. the Government Agent, Western Province, seconded by the Hon. the Surveyor-General the address was adopted.

The Council then adjourned.

4. His Excellency the Governor having arrived, took the Chair.

5. Oath.—The necessary oath was taken by the Hon. G. B. Leechman.

6. The Hon. the Colonial Secretary read the Address of the Council in reply to the Governor's Speech.

7. The Governor replied as follows :—

Honourable Gentlemen of the Legislative Council,

I have to thank you for your reply to the Address which I delivered on opening the present Session.

I have received with much satisfaction the assurance of your readiness to give a careful and attentive consideration to the important Bills that will be laid before you, and to co-operate cordially with the Government in endeavouring to promote the welfare of the people.

8. Papers.—The Colonial Secretary laid on the table the following papers :—

Papers on the subject of the Literary and Scientific work carried on by the Government of Ceylon.

Observations and Returns relating to the Lunatic Asylum and Civil Hospitals of Ceylon for 1877.

Railway Extension from Kuda-oya to Talawakele. (In continuation of Sessional Paper VI. of 1877.)

Report on the Inspection of the Pearl Oyster Banks, 1878.

Further papers on the subject of Railway extension to Nanu-oya. (In continuation of Sessional Paper III. of 1878.)

Reports and Estimates for a single line of Railway from Nanu-oya to Haputale. (In continuation of Sessional Paper V. of 1878.)

Ecclesiastical Subsidies. (Return to an Order of the Legislative Council, dated 5th December, 1877.)

Correspondence relating to the Kurunégala Tank.

Correspondence relating to the Dutch Bay Immigration route.

Report of the Commissioners appointed to inquire into the subject of Railway Extension.

Further papers on the subject of Flood Outlets. (In continuation of Sessional Paper No. XVII. of 1877.)

Report of the Commission appointed to enquire into the causes of the bursting of the bund of the Kurunégala Tank.

Registration of Deeds. (Return to an Order of the Legislative Council dated 28th November, 1877.)

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Report of the Commissioners appointed to enquire into the subject of the probable traffic by Railway between Nanu-oya and Haputale. (In continuation of Sessional Paper No. X. of 1878.)

Further Papers relating to Flood Outlets. (In continuation of Sessional Paper No. XI. of 1878.)

Numerical abstract of the inhabitants resident within the several provinces liable to the performance of labour under the Thoroughfare Ordinance, No. 10 of 1861, for 1878 and 1879.

Return of Grants of Land below upset price. (Return to an Order of the Legislative Council dated 28th November, 1877.)

9. NAWALAPITIYA BRANCH RAILWAY.—Mr. Talbot, pursuant to notice, moved that the Nawalapitiya Branch Railway, which has hitherto been so frequently obstructed, be at once put in an efficient state of repair, and that an estimate of the probable cost of the work be framed and laid before the Council with as little delay as possible.

Seconded by Mr. Wilson.
The Colonial Secretary replied.
Motion agreed to.

10. BILL TO AMEND THE POSTAL ORDINANCE.—On the motion of the Colonial Secretary, seconded by the Queen's Advocate, the Bill intituled "An Ordinance to amend and consolidate the Law relating to the Post Office and the Rates of Postage," was read a first time, and the second reading fixed for Wednesday, the 25th instant.

11. BILL REPEALING PROCLAMATION OF 5TH AUGUST, 1819.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill intituled "An Ordinance to repeal the Proclamation of the 5th August, 1819, relating to the forcible possession of Land and Moveable Property" was read a first time, and the second reading fixed for Wednesday, the 25th instant.

12. BILL RELATING TO POWERS OF ASSESSORS APPOINTED UNDER ORDINANCE 7 OF 1866.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill intituled "An Ordinance to declare the Powers of Assessors appointed under the provisions of the Ordinance No. 7 of 1866" was read a first time, and the second reading fixed for Wednesday, the 25th instant.

On the motion of the Colonial Secretary the Council at its rising adjourned to Wednesday, the 25th instant, at 2 o'clock P. M.

Sept 25, 1878.

Wednesday, 25th September, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.
2. Proceedings of the last meeting read.
3. PAPERS.—The Colonial Secretary laid on the table the following papers :—

Reports of damages by floods in Uva and the Eastern Province.
Report of the Commissioners appointed to enquire into the subject of the Colonial Store.

4. INLAND NAVIGATION.—The Hon. Mr. Wilson, pursuant to notice, moved that the valuable inland navigation, extending for many miles between Colombo and the different parts of the Island, is, at present, in an unfinished and most unsatisfactory condition, from the fact that the terminus (distant about 3 to 4½ miles from the heart of Colombo) entails much damage to goods in transit by carts, and a very heavy outlay in cart-hire, which objections apply to return loads, and that a small outlay would provide canals through a swamp at the same level as the river, which would enable the boats from all parts to arrive as near as possible to the centre of the City and in close proximity to the Railway, Lake, the principal markets, and the large European and native establishments for oil and other extensive manufactures.

Seconded by the Hon. Mr. Leechman.
The Colonial Secretary replied.

The Hon. Mr. Wilson also presented a petition from certain inhabitants on this subject, pointing out its advantages, and making certain observations thereon.

Motion by leave withdrawn.

6. COLOMBO BREAKWATER WORKS.—The Hon. Mr. Leechman, pursuant to notice, asked if any Report has been received from Sir John Coode since his inspection of the Colombo Breakwater Works; also, whether any decision has yet been taken as to the direction of the southern arm of the Breakwater, starting from the Isaure rock, and as to the northern arm proposed to be thrown out from Mutwal; and moved for papers.

Seconded by the Hon. Mr. VanLangenberg.
The Colonial Secretary replied.

6. Extension of the road from Layard's Broadway to Madampitiya.—The Hon. Mr. Wilson, pursuant to notice, moved that the extension of the new road from Layard's Broadway to Madampitiya be made this season to Mattakkuliya Ferry, as promised by the Government when the vote for the first portion of the road was agreed to.

Seconded by the Hon. Mr. Leechman.
The Colonial Secretary replied.
Motion by leave withdrawn.

7. Bill repealing Ordinance 10 of 1862.—On the motion of the Colonial Secretary, seconded by the Queen's Advocate, the Bill intituled "An Ordinance to repeal the Ordinance 10 of 1862, and to make certain offences against the Indian Act No. VIII. of 1876 punishable in Ceylon," was read a first time, and the second reading fixed for Wednesday, the 2nd October.

8. Bill to amend the Crown Timber Ordinance.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill intituled "An Ordinance to amend the law relating to the felling, destruction, and removal of timber grown on Crown Land," was read a first time, and the second reading fixed for Wednesday, the 2nd October.

9. Bill relating to the safe keeping of Petroleum, etc.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill intituled "An Ordinance for the safe keeping of Petroleum and other substances of a like nature," was read a first time, and the second reading fixed for Wednesday, the 2nd October.

10. Bill to amend the Postal Ordinance.—On the motion of the Colonial Secretary, seconded by the Queen's Advocate, this Bill was read a second time. The Council having gone into Committee, the Bill was ordered to be referred to a Sub-Committee, consisting of the Hon. the Colonial Secretary, the Hon. the Treasurer, the Hon. the Surveyor-General, the Hon. Mr. VanLangenberg, the Hon. Mr. Obeyesekara, and the Hon. Mr. Leechman.

11. Bill to repeal Proclamation of 5th August, 1819.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill was read a second time. The Council having gone into Committee, the Bill was ordered to be referred to a Sub-Committee, consisting of the Hon. the Queen's Advocate, the Hon. the Government Agent, Central Province, the Hon. Mr. VanLangenberg, and the Hon. Mr. Obeyesekara.

12. Bill relating to the Powers of Assessors appointed under Ordinance 7 of 1866.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill was read a second time and considered in Committee. The Queen's Advocate having reported progress, the Bill was ordered to be referred to the Law Officers of the Crown, the third reading being fixed for Wednesday, October 2nd.

On the motion of the Colonial Secretary, the Council at its rising adjourned to Wednesday, the 2nd October, at 2 o'clock P.M.

Wednesday, 2nd October, 1878.

Oct. 2, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.
2. Proceedings of the last meeting read.
3. Papers.—The Colonial Secretary laid on the table the following papers :—

Administration Reports, 1877:

Part I., Revenue :—
- Report of the Agent, North-Western Province.
- Report of the Agent, North-Central Province.
- Memo. on the Customs Revenue Returns.

Part II., Scientific :—
- Report of the Director of Public Works.
- Report of the Surveyor-General.

Part IV., Miscellaneous :—
- Report of the Postmaster-General.
- Report of the Chief Resident Engineer of the Railway.
- Report of the Financial and Traffic Manager of the Railway.
- Report of the Director, Botanic Gardens.
- Report of the Colombo Museum.
- Report of the Government Printer.

4. Supervision of Roads in Central Province.—The Hon. Mr. Talbot, pursuant to notice, moved that the European supervision on roads in the Central Province be increased, with a view to lessening the cost of upkeep, which is increasing.

Seconded by the Hon. Mr. Leechman.
The Colonial Secretary replied.
Motion by leave withdrawn.

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5. One-Chain Belts.—The Hon. Mr. Talbot, pursuant to notice, moved that as the one chain belts left on the sides of streams do not fulfil the objects for which they were left, and are a source of trouble to the neighbourhood by harbouring weeds, they be handed over to the proprietors of the estates on which they stand, on condition that they are planted with useful trees.

Seconded by the Hon. Mr. Leechman.

The Colonial Secretary replied.

Motion by leave withdrawn.

6. Bridge over Kelani River.—The Hon. Mr. Leechman, by leave of Council, pursuant to notice given by the Hon. Mr. Wilson, moved that frequent doubts having been expressed as to the strength and stability of the Railway bridge over the Kelani river, it is desirable that a careful inspection should at once be made to ascertain the facts, and whether the bridge is sufficiently strong to carry with safety the present heavy traffic daily passing over it.

Seconded by the Hon. Mr. Talbot.

The Colonial Secretary replied.

Motion by leave withdrawn.

7. Bill repealing Ordinance No. 10 of 1862.—On the motion of the Colonial Secretary, seconded by the Queen's Advocate, the Bill was read a second time. The Council having gone into Committee, the Bill was ordered to be referred to a Sub-Committee, consisting of the Hon. the Colonial Secretary, the Hon. the Surveyor-General, the Hon. the Principal Collector of Customs, the Hon. Mr. VanLangenberg, the Hon. Mr. Talbot, and the Hon. Mr. Leechman.

8. Bill to amend the Crown Timber Ordinance.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill was read a second time. The Council having gone into Committee, the Bill was ordered to be referred to a Sub-Committee, consisting of the Hon. the Queen's Advocate, the Hon. the Government Agent, Western Province, the Hon. the Surveyor-General, the Hon. Mr. VanLangenberg, the Hon. Mr. Obeyesekara, and the Hon. Mr. Talbot.

9. Bill relating to the safe keeping of Petroleum, &c.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill was read a second time. The Council having gone into Committee, the Bill was ordered to be referred to a Sub-Committee, consisting of the Hon. the Queen's Advocate, the Hon. the Treasurer, the Hon. Mr. VanLangenberg, and the Hon. Mr. Leechman.

10. Bill relating to the powers of Assessors appointed under Ordinance No. 7 of 1866.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the report dated 30th September, 1878, of the Law Officers of the Crown, stating that there was in their opinion no legal impediment to the execution by the Colonial Tribunals of a Law in terms of the Bill, having been read, the Bill was read a third time and passed.

11. Bill to amend the Postal Ordinance.—The Colonial Secretary brought up the report of the Sub-Committee on the Bill, which was read by the Clerk of the Council, and the Bill considered in Committee. The Colonial Secretary having reported the Bill with amendments, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown, the third reading being fixed for next meeting.

On the motion of the Colonial Secretary, the Council at its rising adjourned to Wednesday, next, the 9th instant, at 2 o'clock P.M.

Oct. 9, 1878.

Wednesday, 9th October, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.
2. Proceedings of the last meeting read.
3. Assent to Bill.—The Colonial Secretary announced to the Council that His Excellency the Governor had given his assent to the following Ordinance :—

   Ordinance 1 of 1878—"An Ordinance to declare the powers of assessors appointed under the provisions of the Ordinance No. 7 of 1866."

4. Papers.—The Colonial Secretary laid on the table the following papers :—

   Grain Returns—including Return to a resolution of Council of the 21st December, 1877.

   Report on the distribution of the Ceylon Police.

   Administration Reports, Part IV.—Miscellaneous.

   Report of Inspector-General of Prisons, 1877.

5. COLONIAL SUPPLIES.—The Hon. Mr. Obeyesekara, by leave of Council, pursuant to notice given by the Hon. Mr. Wilson, moved that it is believed that this Government have in their possession certain correspondence which passed a few years back between the New Zealand Government and the Crown Agents on the subject of supplies derived through them for the use of the Colony. If so, it is desirable that all such correspondence be laid on the table.

Seconded by the Hon. Mr. Leechman.

The Colonial Secretary replied, and placed on the table Journals of the House of Representatives, New Zealand, 1875.

6. BILL TO AMEND THE POSTAL ORDINANCE.—On the motion of the Colonial Secretary the Bill was recommitted. The Queen's Advocate having reported the Bill with amendments, the report was adopted, and the report of the Law Officers of the Crown, dated 8th October, stating that there was in their opinion no legal impediment to the execution by the Colonial Tribunals of a Law in terms of the Bill, having been read, the Bill was read a third time and passed.

7. GRAIN ORDINANCE.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill intituled "An Ordinance to make better provision for the due collection of the tax, duty or share due to Government upon grain grown in the Island," was read a first time, and the second reading fixed for Wednesday, the 23rd instant.

8. OPIUM AND BHANG ORDINANCE.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill intituled "An Ordinance to amend the law regulating the possession and sale of Opium and Bhang," was read a first time, and the second reading fixed for Wednesday, the 16th instant.

9. PETROLEUM BILL.—The Queen's Advocate brought up the report of the Sub-Committee on the Bill, which was read by the Clerk of the Council, and the Bill considered in Committee. On the motion of the Queen's Advocate, the further consideration of the Bill was deferred for Wednesday the 16th instant.

On the motion of the Colonial Secretary, the Council at its rising adjourned to Wednesday, the 16th October, at 2 o'clock P.M.

Wednesday, 16th October, 1878.

Oct. 16, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.
2. Proceedings of the last meeting read.
3. ASSENT TO BILL.—The Colonial Secretary announced to the Council that His Excellency the Governor had given his assent to the Ordinance No. 2 of 1878, intituled "An Ordinance to amend and consolidate the law relating to the Post Office, and the rates of Postage."
4. PAPERS.—The Colonial Secretary laid on the table the following papers:—

   Administration Reports, 1877.—Part I., Revenue:

   Report of the Government Agent, Central Province.

   Do. Eastern Province.

   Return shewing the number and names of the licensed Hotels in the different towns of the Island, accompanied by a statement in each case as to whether the conditions under which alone they could be established under Ordinance No. 7 of 1873 have been strictly complied with.—(Moved for by the Hon. Sir M. Coomara-Swamy.)

   Village Tribunals.—Statement shewing the Districts, Presidents, their salaries and subordinates, and the number and nature of cases disposed of during 1877.
5. MINOR ROADS IN UVA.—The Hon. Mr. Talbot, pursuant to notice, asked what steps the Government have taken to take over the minor roads in Uva, and called for papers.

   Seconded by the Hon. Sir M. Coomara Swamy.

   The Colonial Secretary replied.
6. ONE-CHAIN BELTS.—The Hon. Mr. Talbot, pursuant to notice, moved that as the one-chain belts left on the sides of streams do not fulfil the objects for which they were left, and are a source of trouble to the neighbourhood by harbouring weeds, they be handed over to the proprietors of the estates on which they stand, on condition that they are planted with useful trees.

   Seconded by the Hon. Mr. Leechman.

   The Colonial Secretary replied.

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7. Opium and Bhang Ordinance.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill was read a second time. The Council having gone into Committee, the Bill was ordered to be referred to a Sub-Committee consisting of the Hon. the Queen's Advocate, the Hon. the Government Agent, Western Province, the Hon. Sir M. Coomara Swamy, and the Hon. Mr. Leechman.

8. Petroleum Bill.—The Council resumed consideration of the Bill in Committee. The Queen's Advocate reported the Bill with amendments, and moved that it be referred to the Law Officers of the Crown, the third reading being fixed for next meeting.

On the motion of the Colonial Secretary, the Council at its rising adjourned to Wednesday, the 23rd October, at 2 o'clock P.M.

Oct. 23, 1878

Wednesday, 23rd October. 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.
2. Proceedings of the last meeting read.
3. Papers.—The Colonial Secretary laid on the table the following papers :—

   Administration Reports, Part III.—Judicial.

   Criminal Statistics furnished by the Hon. the Queen's Advocate.

   Part IV.—Miscellaneous.

   Registrar-General's Returns of Lands and Marriages, Births, and Deaths.

4. Steamer Serendib.—The Hon. Mr. Leechman, pursuant to notice given by the Hon. Mr. Wilson, and with permission of the Council made the following amended motion, viz., that as the *Serendib* is obliged to be detained to renew her superheating steam apparatus the cabins of the Officers and Engineers of the ship should be altered and improved by better ventilation, as at present they are quite unfit for any human being in a tropical climate; also,

   That closet accommodation should be afforded for the general passengers.

   Seconded by the Hon. Mr. VanLangenberg.

   The Colonial Secretary replied and laid on the table a letter from the Agent of the *Serendib* on the subject.

5. Appointment of a General Accountant for Railway Department.—The Hon. Mr. Leechman, by leave of Council, pursuant to notice given by the Hon. Mr. Wilson, moved that as the receipt and expenditure on the Railway have now arrived at such large amounts, it is necessary to appoint a General Accountant whose duties should be strictly confined to Finance and Accounts.

   Seconded by the Hon. Mr. Obeyesekara.

   The Colonial Secretary replied.

   Motion by leave withdrawn.

6. Distress in the Rayigam Korale.—The Hon. Mr. VanLangenberg, pursuant to notice, asked if Government have received any reports from the Government Agent, Western Province, as to the existence of distress in the Rayigam Korale, and moved that the same be laid on the table.

   Seconded by the Hon. Mr. Leechman.

   The Colonial Secretary replied and laid papers on the table.

7. Petroleum Bill.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Report of the Law Officers of the Crown dated 21st October, stating that there was in their opinion no legal impediment to the execution by the Colonial Tribunals of a Law in terms of the Bill intituled "An Ordinance for the safe keeping of Petroleum and other substances of a like nature," having been read by the Clerk of the Council, the Bill was read a third time and passed.

8. Grain Ordinance.—On the motion of the Hon. Sir M. Coomara Swamy, seconded by the Hon. Mr. VanLangenberg, the second reading of the Bill was postponed to Wednesday, the 6th November.

9. Crown Timber Bill.—In Committee the Queen's Advocate brought up the report of the Sub-Committee on the Bill, and the further consideration of the Bill in Committee was postponed to Wednesday the 6th November.

On the motion of the Colonial Secretary, the Council at its rising adjourned to Wednesday, the 6th November, 1878, at 2 o'clock P.M.

Wednesday, 6th November, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.
2. Proceedings of the last meeting read.
3. ASSENT TO BILL.—The Colonial Secretary announced to the Council that His Excellency the Governor had given his assent to the Ordinance No. 3 of 1878, intituled "An Ordinance for the safe keeping of Petroleum and other substances of a like nature."
4. PAPERS.—The Colonial Secretary laid on the table the following papers :—

   Report on the Inscriptions in the Hambantota District, by Dr. E. Müller.

   Administration Reports, 1877, Part IV.—Miscellaneous:.

   Report of the Director of Public Instruction.

   Season Reports of the Assistant Government Agents, Kégalla, Negombo, and report of the Government Agent, Northern Province.
5. GRAIN TAXES.—The Hon. Mr. Leechman gave notice that at the next meeting of Council he would move for a copy of the Despatch of Governor Sir W. H. Gregory to the Secretary of State transmitting the Report of the Grain-Taxes Commission, and for a copy of the Despatch of the Secretary of State to the Governor of Ceylon referred to in the opening address of His Excellency, and in accordance with which the proposed *Grain Ordinance*, 1878, has been framed, and move for papers.
6. GRANT-IN-AID ROADS.—The Hon. Mr. Talbot gave notice that at the next meeting of Council he would move that the Grant-in-Aid roads that are now not exclusively used by Planters but by the general community be maintained by Government like other principal roads.
7. MAGISTRATE FOR PANWILA AND URUGALA.—The Hon. Mr. Talbot, pursuant to notice, moved that a Magistrate be appointed to Panwila and Urugala at once.

   Seconded by the Hon. Mr. VanLangenberg

   The Colonial Secretary replied. Motion agreed to.
8. SUPPLY BILL, 1879.—On the motion of the Colonial Secretary, seconded by the Auditor-General, the Bill intituled "An Ordinance to make provision for the Contingent Services for the year 1879," was read a first time, and the second reading fixed for Wednesday the 13th November.
9. GRAIN ORDINANCE.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill was read a second time. The Council having gone into Committee the Bill was ordered to be referred to a Sub-Committee consisting of the Hon. the Colonial Secretary, the Queen's Advocate, the Government Agent, Western Province, the Principal Collector of Customs, Sir M. Coomara Swamy, Mr. VanLangenberg, Mr. Obeyesekara, and Mr. Leechman.

   On the motion of the Colonial Secretary, the Council at its rising adjourned to Wednesday, the 13th November, at 2 P.M.

Wednesday, 13th November, 1878.

Nov. 13, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.
2. Proceedings of the last meeting read.
3. PAPERS.—The Colonial Secretary laid on the table the following papers :—

   Report on the State of the Rayigam Korale, October, 1878.

   Administration Reports, 1877, Part I.—Revenue :—

   Reports of the Government Agents, Southern and Western Provinces.
3. REPORT OF THE GRAIN-TAX COMMISSION.—The Hon. Mr. Leechman, pursuant to notice, moved for a copy of the Despatch of Governor Sir W. H. Gregory to the Secretary of State, transmitting the Report of the Grain-Tax Commission, and for a copy of the Despatch of the Secretary of State to the Governor of Ceylon referred to in the opening address of His Excellency, and in accordance with which the proposed *Grain Ordinance*, 1878, has been framed, and moved for papers.

   Seconded by the Hon. Sir M. Coomara Swamy.

   The Colonial Secretary replied, laying on the table Despatches of His Excellency the Governor and the Secretary of State on the report of the Grain-Tax Commission.
4. GRANT-IN-AID ROADS.—The Hon. Mr. Talbot, pursuant to notice, moved that the Grant-in-Aid roads that are now not exclusively used by Planters but by the general community, be maintained by Government like all other principal roads.

   Seconded by the Hon. Mr. Leechman.

   The Colonial Secretary replied.

   Motion by leave withdrawn.

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5. CATALOGUE OF ORIENTAL WORKS.—The Hon. Sir M. Coomara Swamy, pursuant to notice, asked in what stage of progress is the Catalogue of Oriental works begun under Sir H. Robinson's auspices, and also what has been done to carry out Sir W. Gregory's suggestions in his letter of 1st August, 1877, to Lord Carnarvon, and moved for papers.

Seconded by the Hon. Mr. Obeyesekara.

The Colonial Secretary replied, laying on the table the revised Páli text of the Mahawansa from the 37th Chap., and also the Sinhalese translation of the Mahawansa.

6. SUPPLEMENTARY SUPPLY BILL, 1878.—On the motion of the Colonial Secretary, seconded by the Auditor-General, the Bill intituled "An Ordinance for making provision for the Supplementary Contingent Charges of the year 1878," was read a first time, and the second reading fixed for Wednesday the 20th instant.

7. SUPPLY BILL, 1879.—On the motion of the Colonial Secretary, seconded by the Auditor-General, the Bill was read a second time, and the Council having gone into Committee, the Bill was ordered to be referred to a Sub-Committee consisting of the Hon. the Colonial Secretary, the Hon. the Auditor-General, the Hon. the Surveyor-General, the Hon. Sir M. Coomara Swamy, Mr. Talbot and Mr. Leechman.

8. TOLLS BILL.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill intituled "An Ordinance to establish further Tolls and to discontinue certain Tolls," was read a first time, and the second reading fixed for Wednesday the 20th instant.

9. OPIUM AND BHANG ORDINANCE.—The Queen's Advocate brought up the report of the Sub-Committee on the Bill, which was read by the Clerk of the Council. The Council having considered the Bill in Committee, and the Queen's Advocate having reported it with amendments, the report was adopted, and the Bill referred to the Law Officers of the Crown, the third reading being fixed for Wednesday the 20th instant.

10. CROWN TIMBER BILL.—On the motion of the Queen's Advocate, the Council resumed consideration of the Bill in Committee. The Queen's Advocate reported progress, and the further consideration of the Bill in Committee was postponed to Wednesday the 20th instant.

On the motion of the Colonial Secretary, the Council at its rising adjourned to Wednesday, the 20th instant, at 2 o'clock P. M.

Nov. 20, 1878

Wednesday, 20th November, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.

2. Proceedings of the last meeting read.

3. PETITION.—The Hon. Mr. Obeyesekara presented a petition from certain inhabitants of Haldummulla praying for the appointment of a separate Magistrate for that district, and moved that it be read.

Petition read and ordered to lie on the table.

4. BLUE BOOK FOR 1877.—The Colonial Secretary laid on the table the Ceylon Blue Book for 1877.

5. RAILWAY EXTENSION FROM NÁWALAPITIYA TO NÁNU-OYA.—His Excellency the Governor made the following statement:—In my Address on opening the present Session I had the satisfaction of informing the Council that the Secretary of State had approved the construction of the Railway extension from Náwalapitiya to Nanu-oya, on condition that satisfactory arrangements should be made to ensure that the General Revenue of the Colony should not hereafter be subjected to any considerable charge on account of the Railway. The arrangements that were accordingly proposed are contained in the Report of the Commissioners on the table, and I have received from the Secretary of State a Despatch authorizing me to submit for the consideration of this Council a Bill authorizing a loan not exceeding One million sterling for making the Railway, on condition that those arrangements are carried out, and without reference to any further extension or otherwise. A Bill for this object will be laid before you at an early date.

6. SUPERVISION OF WORKS ON ROADS.—The Hon. Mr. Talbot, pursuant to notice, moved that in order that officers may be trained for the proper supervision of the work on roads, they shall work for a time as Assistants to the officers now in charge of the roads in the Central Province.

Seconded by the Hon. Mr. Leechman.

The Colonial Secretary replied.

Motion by leave withdrawn.

7. EXPERIMENTS IN COFFEE CULTURE.—The Hon. Mr. Talbot, pursuant to notice, moved that the different species of Coffee grown in the West Indies be imported and grown in the Royal Botanical Gardens of Ceylon.

Seconded by the Hon. Mr. Obeyesekara.

The Colonial Secretary replied.

The motion by leave of Council having been amended by the insertion after "West Indies" of the words "and Guiana," was agreed to.

8. RESIDENT MAGISTRATE FOR HALDUMMULLA.—The Hon. Mr. Obeyesekara, pursuant to notice, moved that it is desirable to appoint a resident Magistrate to the Minor Courts of Haldummulla.

Seconded by the Hon. Mr. Talbot.

The Colonial Secretary replied.

Motion by leave withdrawn.

9. SUPPLEMENTARY SUPPLY BILL, 1878.—On the motion of the Colonial Secretary, seconded by the Auditor-General, the Bill was read a second time. The Council having gone into Committee, the Bill was ordered to be referred to a Sub-Committee consisting of the Hon'ble the Colonial Secretary, Hon'ble the Auditor-General, Hon'ble the Principal Collector of Customs, Mr. VanLangenberg, Mr Obeyesekara, and Mr. Leechman.

10. TOLLS BILL.—On the motion of the Queen's Advocate, the Bill was read a second time and considered in Committee. The Queen's Advocate having reported the Bill without amendment, the report was adopted, and the third reading fixed for Wednesday next the 27th November.

11. OPIUM AND BHANG BILL.—The report of the Law Officers of the Crown, dated 18th November, stating that there was in their opinion no impediment to the execution by the Colonial tribunals of a law in terms of the Bill, having been read by the Clerk of the Council, the Bill was, on the motion of the Queen's Advocate, seconded by the Government Agent, Western Province, read a third time and passed.

12. CROWN TIMBER BILL.—On the motion of the Queen's Advocat the Council in Committee, resumed consideration of the Bill. The Queen's Advocate reported certain amendments, and the further consideration of the Bill in Committee was postponed to next meeting of Council.

On the motion of the Colonial Secretary the Council at its rising was adjourned to Wednesday the 27th November, 1878, at 2 o'clock P.M.

Wednesday 27th November, 1878.

Nov. 27, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor in the chair.

2. NEW MEMBER.—The Hon. H. C. Buchanan took the usual oaths as member of the Council.

3. Proceedings of the last meeting read.

4. ASSENT TO BILL.—The Colonial Secretary announced to the Council that His Excellency the Governor had given his assent to the Ordinance No. 4 of 1878, intituled "An Ordinance to amend the law relating to the possession and sale of Opium and Bhang."

5. PETITION.—The Hon. the Colonial Secretary presented a petition from the Kandyan Chiefs against the repeal of the Proclamation of 5th August, 1819.

Petition ordered to lie on the table.

6. PAPERS.—The Colonial Secretary laid on the table the following papers:—

Papers relating to the Gram Taxes. (Return to a motion of Hon. G. B. Leechman.)

Further papers on Railway Extension towards Badulla, dated 31st October, being Report upon an alternative line, No 2, Haputale towards Ella.

7. SUB-COMMITTEE ON SUPPLEMENTARY SUPPLY BILL, 1878.—The Colonial Secretary obtained permission of Council to substitute the Hon. H. C. Buchanan for the Hon. G. B. Leechman in the Sub-Committee on Supplementary Supply Bill, 1878.

8. CHENA CULTIVATION.—The Hon. Mr. VanLangenberg, pursuant to notice, moved for petitions received since 1872 by the Hon. the Government Agent, Western Province, and reports thereon in reference to the prohibition of chena cultivation.

Seconded by the Hon. Mr. Leechman.

The Colonial Secretary replied.

Motion agreed to.

9. TOLL ORDINANCE.—On the motion of the Queen's Advocate, this Bill was read a third time and passed.

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10. CROWN TIMBER BILL.—On the motion of the Queen's Advocate the Council resumed consideration in Committee of the Bill. The Queen's Advocate having reported the Bill with amendments, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown, the third reading being fixed for next meeting of Council.

11. FINAL SUPPLEMENTARY SUPPLY BILL, 1877.—On the motion of the Auditor-General, seconded by the Colonial Secretary, the Bill intituled "An Ordinance for making final provision for the Supplementary Contingent Charges for the year 1877," was read a first time, and the second reading fixed for Wednesday the 4th December.

12. BILL TO REPEAL THE PROCLAMATION OF 5TH AUGUST, 1819.—The Queen's Advocate, as Chairman, brought up the report of the Sub-Committee on the Bill, which was read by the Clerk of the Council, and the Bill considered in Committee. The Queen's Advocate having reported the Bill without amendments, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown, the third reading being fixed for Wednesday the 4th December.

13. THE NANU-OYA RAILWAY BILL.—On the motion of the Colonial Secretary, seconded by the Queen's Advocate, the Bill intituled "An Ordinance for the raising by Debentures of a sum of One million pounds for the construction of a Railway from Nawalapitiya to Nanu-oya," was read a first time, and the second reading fixed for Wednesday the 4th December.

14. BILL PROVIDING FOR THE TRAFFIC RATES ON THE PROPOSED NANU-OYA RAILWAY.—On the motion of the Colonial Secretary, seconded by the Queen's Advocate, the Bill intituled "An Ordinance to make provision for the traffic rates to be charged in respect of goods upon the proposed line of Railway between Nawalapitiya and Nanu-oya," was read a first time, and the second reading fixed for Wednesday the 4th December.

On the motion of the Colonial Secretary the Council at its rising was adjourned to Wednesday the 4th December, 1878, at 2 o'clock P.M.

Dec. 4, 1878.

Wednesday, 4th December, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.

2. Proceedings of the last meeting read.

3. ASSENT TO BILL.—The Hon. the Colonial Secretary announced to the Council that His Excellency the Governor had given his assent to the Ordinance No. 5 of 1878, intituled "An Ordinance to establish further Tolls and to discontinue certain Tolls."

4. PAPERS.—The Colonial Secretary laid on the table the following papers:—

Administration Reports, 1877, Part I.—Revenue:—

Report of the Government Agent, Northern Province.

5. LIGHTING OF SEA-SIDE RAILWAY STATIONS.—The Hon. Mr. Leechman, pursuant to notice, called attention to the imperfect lighting, after dark, of the stations and platforms of the Sea-side Railway, and moved that all the Government Railway Stations and platforms within the Municipality of Colombo be lighted with Gas, and that all the sea-side stations and platforms beyond Colombo, Kalutara included, and those at Peradeniya, Gampola, and Náwalapitiya, be well lighted with suitable lamps.

Seconded by the Hon. Mr. VanLangenberg.

The Colonial Secretary replied.

6. THE RATNAPURA ROAD.—The Hon. Mr. Leechman, pursuant to notice, called attention to the frequent interruptions of traffic on the Ratnapura road caused by the flooding of the roadway beneath the temporary wooden Railway Bridge at Urugodawatta, at 2¼ miles on the Kandy Railway, and moved that the necessary steps be taken to have the road, at this point, raised at least to its former level.

Seconded by the Hon. Mr. Buchanan.

The Colonial Secretary replied.

Motion agreed to.

7. CROWN TIMBER BILL.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill was read a third time and passed.

8. BILL TO REPEAL PROCLAMATION OF 5TH AUGUST, 1819.—On the motion of the Queen's Advocate, seconded by the Colonial Secretary, the Bill was read a third time and passed.

9. MUNICIPAL ASSESSMENT BILL.—On the motion of the Queen's Advocate, seconded by the Government Agent, Western Province, the Bill intituled "An Ordinance to declare the legality of certain payments made by the Municipal Council of Colombo out of the rates levied under the 53rd section of the Municipal Councils' Ordinance, 1865, and to make further provision for the future application of such rates," was read a first time, and the second reading fixed for Wednesday the 11th instant.

10. FINAL SUPPLEMENTARY SUPPLY BILL, 1877.—On the motion of the Auditor-General, seconded by the Colonial Secretary, the Bill was read a second time and considered in Committee. The Auditor-General having reported the Bill with amendments, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown, the third reading being fixed for Wednesday the 11th instant.

11. THE NANU-OYA RAILWAY BILL.—On the motion of the Colonial Secretary, seconded by the Hon. Mr. Talbot, the Bill was read a second time and considered in Committee. The Colonial Secretary having reported the Bill without amendment, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown, the third reading being fixed for Wednesday the 11th instant.

12. BILL PROVIDING FOR TRAFFIC RATES ON THE PROPOSED NANU-OYA RAILWAY.—On the motion of the Colonial Secretary, seconded by the Hon. Mr. Talbot, the Bill was read a second time and considered in Committee. The Colonial Secretary having reported the Bill without amendment, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown, the third reading being fixed for Wednesday the 11th December.

On the motion of the Colonial Secretary the Council at its rising adjourned to Wednesday the 11th December, at 2 o'clock P.M.

Wednesday, 11th December, 1878.

Dec. 11, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.

2. Proceedings of the last meeting read.

3. ASSENT TO BILLS.—The Colonial Secretary announced to the Council that His Excellency the Governor had given his assent to the following Ordinances:—

   No. 6 of 1878—"An Ordinance to amend the law relating to the felling, destruction, and removal of timber grown on Crown Land."

   No. 7 of 1878—"An Ordinance to repeal the Proclamation of 5th August, 1819, relating to the forcible possession of land and moveable property."

4. PAPERS—The Colonial Secretary laid on the table the following papers:—

   Administration Reports, 1877, Part I.—Revenue:—

   Report of the Forester, Northern Province.

   Papers relating to the proposed Railway Extension to Mattakuliya.

   Minutes of Evidence taken before the Sub-Committee on the Grain Tax Bill.

5. TALPITIYA FLOOD OUTLET WORKS.—The Hon. Mr. Leechman pursuant to notice, put the following qestion:—

   It being reported that the number of persons employed on the Talpitiya flood-outlet relief works has decreased by about one-half, to ask, if such be the case, and if so the cause of the reduction.

   The Colonial Secretary replied.

6. RETURN OF THE PLACES IN WHICH A POLICE FORCE HAS BEEN ESTABLISHED UNDER ORDINANCE 16 OF 1865.—Sir M. Coomara Swamy, pursuant to notice, moved for a return shewing the names of the places in which a Police Force has been established under section 10 of Ordinance 16 of 1865, the number of Police so stationed in each place, their cost, and the amount recovered in each case; also, a statement of the cases in which the Force so stationed has been removed.

   Seconded by the Hon. Mr. VanLangenberg.

   The Colonial Secretary replied.

   Motion agreed to.

7. BILL AMENDING WEIGHTS AND MEASURES ORDINANCE, 1876.—On the motion of the Queen's Advocate, seconded by the Hon. Mr. Talbot, the Bill intituled "An Ordinance to amend the Weights and Measures Ordinance, 1876," was read a first time, and the second reading fixed for Saturday the 14th December.

8. FINAL SUPPLEMENTARY SUPPLY BILL, 1877. On the motion of the Auditor-General, seconded by the Colonial Secretary, the Bill was read a third time and passed.

9. GRAIN-TAX BILL.—The Colonial Secretary brought up the report of the Sub-Committee on the Bill which was read by the Clerk of the Council. The Council having considered the Bill in Committee, and the Queen's Advocate having reported the Bill with amendments, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown, the third reading being fixed for Wednesday the 18th December.

10. NANU-OYA RAILWAY BILL.—On the motion of the Colonial Secretary, the Bill was read a third time and passed.

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14.—NANU-OYA TRAFFIC RATES BILL.—On the motion of the Colonial Secretary, the Bill was read a third time and passed.

On the motion of the Colonial Secretary the Council at its rising adjourned to Saturday the 14th December, at 2 o'clock P.M.

Dec. 14, 1878.

Saturday, 14th December, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the Chair.
2. Proceedings of last meeting read.
3. ASSENT TO BILLS.—The Colonial Secretary announced to the Council that His Excellency the Governor had given his assent to the following Ordinances :—

   No. 8 of 1878—"An Ordinance for making final provision for the Supplementary Contingent Charges for the year 1877."

   No. 9 of 1878—"An Ordinance for the raising by Debentures of a sum of One Million Pounds sterling for the construction of a Railway from Nawalapitiya to Nanu-oya."

   No. 10 of 1878—"An Ordinance to make provision for the Traffic Rates to be charged in respect of Goods upon the proposed Line of Railway between Nawalapitiya and Nanu-oya.
4. PAPERS.—The Colonial Secretary laid on the table the following papers :—

   Administration Reports, 1877, Part I.—Revenue :—

   Returns of Revenue and Expenditure by the several Government Agents and their Assistants.

   Statement shewing the amount of Schedule fees recovered by the several Fiscals and their Deputies under Ordinance No. 4 of 1867.
5. GRANT-IN-AID ROADS.—The Hon. Mr. Talbot, pursuant to notice, moved that in the case of assessment for the construction of Grant-in-Aid roads, when the contribution from one estate exceeds 1,000 rupees it shall be collected in instalments not exceeding 500 rupees, as it may be required for the progress of the work.

   Seconded by the Hon. Mr. Leechman.

   The Colonial Secretary replied.

   Motion by leave withdrawn.
6. EXEMPTION FROM TOLLS.—The Hon. Mr. Leechman, pursuant to notice, asked when Government will proclaim rapeseed cake free from tolls under Ordinance No. 7 of 1875, and also, whether Government will, at the same time, proclaim free from tolls, margosa poonac, poongam poonac, and any other oil cakes which are admittedly only used for manuring purposes, and moved for any further papers on the subject.

   Seconded by the Hon. Mr. Talbot.

   The Colonial Secretary replied.

   Motion by leave withdrawn.

7.—POLICE STATIONS ON THE ROAD LEADING TO UVA.—The Hon. Mr. Talbot, pursuant to notice, moved that a register be kept at all the Police Stations on the principal roads in and leading to Uva in which shall be entered the number, name of driver, and load of all carts passing.

   Seconded by the Hon. Mr. Gross-Buchanan.

   The Colonial Secretary replied.

   Motion by leave withdrawn.

8. COFFEE STEALING ORDINANCE.—The Hon. Mr. Talbot, pursuant to notice, moved that the Coffee Stealing Ordinance No. 8 of 1874 should be continued and remain in force until the 31st day of December, 1880.

   Seconded by the Hon. Mr. VanLangenberg.

   The Colonial Secretary replied.

   Motion by leave withdrawn.

9. COOLIE MEDICAL AID ORDINANCE.—The Hon. Sir M. Coomara Swamy, pursuant to notice, asked whether the report of the Commissioners appointed to inquire into the working of the Coolie Medical Ordinance will be ready, or, whether there is any prospect of legislation next Session for making better provision to meet the medical wants of the Coolies, and moved for papers.

   Seconded by the Hon'ble Mr. Talbot.

   The Colonial Secretary replied.

10. Municipal Assessment Bill.—On the motion of the Queen's Advocate, the Bill was read a second time and considered in Committee. The Queen's Advocate having reported the Bill without amendments, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown; the third reading being fixed for Wednesday, the 18th instant.

11. Bill providing for the Naturalization of Constantin Edmund de Komierowski.—On the motion of the Colonial Secretary, the Bill was read a second time and considered in Committee. The Colonial Secretary having reported the Bill without amendments, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown; the third reading being fixed for Wednesday, the 18th instant.

12. Bill amending the Weights and Measures Ordinance, 1876.—On the motion of the Queen's Advocate, the Bill was read a second time and considered in Committee. The Queen's Advocate having reported the Bill without amendments, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown, the third reading being fixed for Wednesday, the 18th instant.

13. Supplementary Supply Bill.—The Colonial Secretary brought up the report of the Sub-Committee on the Bill, which was read by the Clerk of the Council. The Council having considered the Bill in Committee, and the Colonial Secretary having reported the Bill with amendments, the report was adopted, and the third reading of the Bill fixed for Wednesday, the 18th instant.

On the motion of the Colonial Secretary, the Council at its rising adjourned to Wednesday the 18th instant, at 2 o'clock P.M.

Wednesday, 18th December, 1878.

Dec. 18, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.
2. Proceedings of the last meeting read.
3. Papers.—The Colonial Secretary laid on the table the following papers :—

   Administration Reports Part IV. Miscellaneous :—Report of the Principal Civil Medical Officer, etc., for 1877.

   Lists of Labour rendered and Works executed in the several Provinces of the Island during the year 1877 under the Ordinance No. 10 of 1861.

4. Colombo Breakwater and new Harbour Works.—The Hon. Mr. Leechman, pursuant to notice, asked whether Government will be able before the closing of the present Session to communicate any further information with regard to the future of the Colombo Breakwater and new Harbour Works.

   The Colonial Secretary replied.

5. Paddy Tax.—The Hon. Mr. Buchanan, pursuant to notice, moved for a return shewing the distraints by the Crown for paddy tax for the last three years in each province separately, with a list of cases now pending for arrears of paddy tax.

   Seconded by the Hon. Mr. Leechman.
   The Colonial Secretary replied.
   Motion agreed to.

6. Telegraph Extensions.—The Hon. Mr. Leechman, pursuant to notice, asked when the expected Telegraph Stations at Peradeniya and Nawalapitiya may probably be open to the public; and moved that with the view of securing that necessary telegraph extensions within the Island be sanctioned and carried out within a reasonable time, it is desirable that the inland system of Ceylon telegraphs be entirely in the hands of the Ceylon Government.

   Seconded by the Hon. Mr. Talbot.
   The Colonial Secretary replied.
   Motion by leave withdrawn.

7. Prison Returns.—The Hon. Mr. Leechman, pursuant to notice, moved for a return shewing in detail the amounts voted for each of the seven years from 1873 to 1879 for the construction, renewal, or permanent improvement of Convict Establishments, Prisons, and the smaller Jails, within the Island, and the sums that will be required to be voted after 1879 to fully complete the several undertakings, as estimated ; and moved also for a similar return with regard to Hospitals, Dispensaries and Lunatic Asylums.

   Seconded by the Hon. Mr. Buchanan.
   The Colonial Secretary replied.
   Motion agreed to.

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8. RAILWAY PASSENGER TRAINS.—The Hon. Mr. Leechman, pursuant to notice, moved that for the convenience of the population in that neighbourhood, it is desirable that a morning and an afternoon passenger train be run to and from the Kelani railway station in connection with the sea-side line, and that the question of opening Metropolitan passenger stations on the Colombo side of the Kelani railway bridge at the points of contact with the old Hanwella road, the new road to Ratnapura, and the Urugodawatta road, is deserving of the favourable consideration of the Government.

Seconded by the Hon. Mr. Obeyesekera.
The Colonial Secretary replied.
Motion by leave withdrawn.

9. NEW CART ROADS.—The Hon. Mr. Talbot, pursuant to notice, asked when it is the intention of Government to commence and when they hope to finish the roads leading from the existing cart roads to the sites of the stations on the railway about to be made to Nanu-oya; and moved for papers.

Seconded by the Hon. Mr. Leechman.
The Colonial Secretary replied.

10. SUPPLY BILL, 1879.—The Colonial Secretary brought up the report of the Sub-Committee on the Bill, which was read, by the Clerk of the Council. The Council having considered the Bill in Committee, and the Colonial Secretary having reported the Bill with amendments, the report was adopted, and the Bill ordered to be referred to the Law Officers of the Crown; the third reading being fixed for Thursday.

11. GRAIN TAX BILL.—On the motion of the Queen's Advocate, the Bill was re-committed and certain amendments were made. The Queen's Advocate having reported the Bill with amendments, the report was adopted, the bill read a third time, and passed.

12. MUNICIPAL ASSESSMENT BILL.—On the motion of the Queen's Advocate, the Bill was read a third time and passed.

13. BILL PROVIDING FOR THE NATURALIZATION OF CONSTANTIN EDMUND DE KOMIEROWSKI.—On the motion of the Colonial Secretary, the Bill was read a third time, and passed.

14. BILL TO AMEND WEIGHTS AND MEASURES ORDINANCE, 1876.—On the motion of the Queen's Advocate, the Bill was re-committed, and an amendment having been made, the Bill was read a third time and passed.

15. SUPPLEMENTARY SUPPLY BILL, 1878.—On the motion of the Colonial Secretary, the Bill was read a third time and passed.

On the motion of the Colonial Secretary, the Council at its rising adjourned to Thursday, the 19th instant, at 2 o'clock P.M.

Dec. 19, 1878

Thursday, 19th December, 1878.

1. The Council met pursuant to adjournment. His Excellency the Governor took the chair.

2. Proceedings of the last meeting read.

3. SUPPLY BILL, 1879.—The report of the Law Officers of the Crown, dated 19th December, stating that there was in their opinion no legal impediment to the execution by the Colonial Tribunals of a law in terms of the Bill, having been read, the Bill was on the motion of the Colonial Secretary, seconded by the Auditor-General, read a third time and passed.

4. ASSENT TO BILLS.—The Colonial Secretary announced to the Council that His Excellency the Governor had given his assent to the following Bills:—

No. 11 of 1878—"An Ordinance to make better provision for the due collection of the Tax, Duty or Share due to Government upon Grain grown in this Island."

No. 12 of 1878—"An Ordinance to declare the legality of certain payments made by the Municipal Council of Colombo out of the rates levied under the 53rd section of the Municipal Councils Ordinance, 1865, and to make further provision for the future application of such rates."

No. 13 of 1878—"An Ordinance to provide for the naturalization of Constantin Edmund de Komierowski."

No. 14 of 1878—"An Ordinance to amend the Weights and Measures Ordinance, 1876."

No. 15 of 1878—"An Ordinance for making provision for the Supplementary Contingent Charges for the year 1878."

No. 16 of 1878—"An Ordinance for making provision for the Contingent Services for the year 1879."

The Colonial Secretary laid on the table a paper shewing the proposed appropriation of the Irrigation Vote during 1879.

5. Closing of Session.—His Excellency the President concluded the Session by reading the following Address :—

Honourable Gentlemen of the Legislative Council,

1. In closing the present Session of this Council, I desire in the first place to offer you my hearty thanks for the time and care that you have bestowed upon the measures submitted for your consideration.

2. These measures, if few in number, were all useful, and some were of the highest importance.

3. The Grain Tax Ordinance is undoubtedly the principal measure of the Session, and it may be questioned whether any law so vitally affecting the interests of the great agricultural class has been passed in this Chamber for very many years. In abolishing for ever the practice of farming out the paddy tythe to the highest bidder, this law will, as fast as it comes into force in district after district, put an entire stop to the possibility of that oppression and extortion which has been represented as inseparable from the renting system. In substituting a fixed money payment for the old mode of collection, I trust that we are adopting a course that will ultimately be found acceptable to the people. In offering liberal terms for compounding the paddy tythe for a fixed annual payment for a term of years without reference to the extent of the crop, the greatest possible encouragement is given to the extension and improvement of agriculture. I believe that when this Ordinance is carried out, as it is the intention of my Government that it shall be carried out, in the liberal spirit in which it is conceived, it will be appreciated by the agricultural population, who will not be slow to perceive and to profit by the advantages it offers.

4. The new law does not exempt from payment of the tythe any grain or produce heretofore subject to tythe, and difficulty is anticipated in assessing the amount of money due in respect to certain dry grains usually grown in very small parcels of land, varying from year to year, or even from crop to crop. As I have already intimated, this difficulty will be referred to a Commission, which will be appointed to consider and report upon the question before the Ordinance is proclaimed in the Northern Province. And with respect to the Ordinance generally, I take this opportunity of announcing that I think it right to wait for the assent of Her Majesty before bringing into operation an Ordinance which so largely affects our great agricultural population.

5. Next in importance to the Grain Tax Ordinance, and of hardly less moment to the progress of the Colony and its commerce, is the Bill that you have passed to authorize the Government to raise a loan of one million pounds sterling for defraying the cost of building the long-desired railway from Nawalapitiya to Nanu-oya. The raising of a loan of this magnitude, chargeable upon the general revenues of the Colony, is only sanctioned upon the understanding that satisfactory arrangements are made that the general revenues, though legally liable, should not be subjected to any charge upon account of the railway. These arrangements are contained in the Ordinance that you have passed for raising the rates to be charged for traffic over the extension, to the amount estimated by the Railway Commission as sufficient to produce six per cent. on the cost of construction. There is, I believe, reason to hope that the rates fixed by the Commission will produce more than six per cent., and should this fortunately prove to be the case, the rates will be gradually reduced to the ordinary rates or such larger rates as will be sufficient to yield six per cent.

6. At the opening of this Session, I informed the Council that the plans and sections of the further extension of the railway from Nanu-oya to Haputale had been transmitted to England for examination by the Consulting Engineer. I have not yet received any intimation of the Secretary of State's views upon this extension, which I have submitted for favourable consideration. The delay is of little moment, as the Haputale extension can be of no use until the railway to Nanu-oya is completed, and indeed it is questionable whether that extension can be carried through with prudent economy without the assistance that will be obtained by means of the Nanu-oya railway in the transport of heavy material.

7. A third measure, to which I attach very high importance, is the question of flood outlets for the maritime districts between Negombo and Kalutara. Though this is a matter of a more local and restricted character than the other measures to which I have referred, yet it affects the well-being of thousands of people in a deeper manner. I thank you, gentlemen, for sanctioning the large appropriation, proposed by the Government, of 150,000 rupees to this important work. I believe that this sum, judiciously expended under the scientific direction of the officers of the Public Works Department, will do much good in preventing a recurrence of such sufferings as those recorded in the papers on the table, and will justify the Government in proposing, and the Council in sanctioning, the continuance of this work in future years. Reports on the progress of this work will be laid before the Council at the opening of the next Session.

8. It is also my duty to thank you for the liberal supplies that you have provided for carrying on the Public Service in the year 1879. In accordance with the intimation made in my address at the opening of the Session, the estimates have been framed with a rigid regard to economy, and considerable reduction has been effected. In many items, however, notably in hospitals, there has been an increase in the votes asked for. The object in all cases has been to provide sufficient sums to meet all the expenditure that can be reasonably foreseen, and so to avoid

LEGISLATIVE COUNCIL.

Proceedings.

the necessity for supplementary estimates, which ought to be strictly confined to urgent expenditure rendered necessary by unforeseen circumstances.

9. I had hoped before the close of the Session to have been able to lay upon the table the report of Sir John Coode upon the questions connected with the prosecution of the Breakwater Works and the improvement of the Harbour, which have been referred to him. His opinions on these questions would, under any circumstances, have had very great value, but their value is much increased by the fact that Sir John Coode acquired by his visit to Ceylon in January last a local knowledge of the difficulties to be encountered.

10. Before concluding, I have to thank the Council on behalf of the First three Classes of the Civil Service and of other officers, as well as on my own behalf, for the readiness with which the Council have voted the increase of salaries which I was authorized by the Secretary of State for the Colonies to propose.

I now close this Session, humbly trusting that, under the Divine blessing, our labours may promote the well-being and add to the happiness of the community.

I.

PAPERS

ON THE SUBJECT OF THE

LITERARY AND SCIENTIFIC WORK

CARRIED ON BY THE

GOVERNMENT OF CEYLON.

Ordered by His Excellency the Governor to be printed.

COLOMBO.

PRINTED BY WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

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PAPERS

ON THE SUBJECT OF

LITERARY AND SCIENTIFIC WORK IN CEYLON.

LITERARY AND SCIENTIFIC WORK.

PAPERS.

No. 1.

July 17, 1869.
Jan. 8, 1870.

No. 1.

Governor Sir HERCULES G. R. ROBINSON, K.C.M.G., to Earl GRANVILLE, K.G.

No. 20.

Queen's House,
Colombo, 11th January, 1870.

MY LORD,—I ENCLOSE copies of papers recently published in the "Ceylon Gazette," from which Your Lordship will learn that in the interests of learning and historical research this Government has sanctioned the preparation of a descriptive catalogue of the Páli, Siyhalese, and Sanskrit MSS. to be found in the libraries of the Pansalas (Buddhist Monasteries) and other places in Ceylon, and that it is also proposed to form a public library of works in those languages.

2. I also enclose copy of a correspondence with a memorandum by the Chief Translator of this Government on the subject of a very liberal offer by the King of Burmah, to present to this Government a complete copy of the Buddhist scriptures—the Tripitika—which will be a most valuable contribution to the proposed Library.

3. It has occurred to me that it may be of interest to Oriental scholars in England, especially to Professor Max Muller, to learn what steps Ceylon is taking in this matter, and that we may receive valuable suggestions if it is known that this Government is anxious to add its mite towards the promotion of Oriental learning.

I have, &c.,
HERCULES G. R. ROBINSON.

From Secy. to Govt. of India, No. 41 B, Jan. 10, 1867.
To do. No. 7, Feb. 14, 1867.
From do. No. 243, Mar. 12, 1867.
To do. No. 33, April 12, 1867.
Memo. from De Zoysa Mudlr., Apr. 4, 1867.

Enclosure No. 1 in No. 1.

EXTRACTS from the *Ceylon Government Gazette* of 17th July, 1869.

(1.)—*Notice.*

THE following papers suggesting that enquiry be made, in the interest of learning and historical research, as to the Páli, Siyhalese and Sanskrit MSS. to be found in the Pansalas of Ceylon, are published for general information; and it is notified that Mr. James Alwis having consented to collect the desired information, all Government officers are hereby required to afford him all the information and assistance in their power.

By His Excellency's Command,
HENRY T. IRVING,
Colonial Secretary.

Colonial Secretary's Office,
Colombo, 12th July, 1869.

Government Agent, Jaffna, to the Colonial Secretary.

No. 320.

Jaffna Kachchéri,
7th December, 1868.

IT occurs to me that possibly no communication may have been made by the Indian Government to His Honor the Office Administering the Government of Ceylon on the subject of the measures which are being taken in India for the discovery and preservation of the records of ancient Sanskrit literature. I therefore take the liberty of inviting your attention to the Supplement to the Fort St. George *Gazette*, under date 1st December, 1868, and of suggesting that possibly some not unimportant contribution to the catalogue of manuscript works in the Sanskrit language may result from inspection of the library shelves of Pansalas in Ceylon.

I doubt whether the local Mosques contain rare (Arabic) manuscripts, and I am informed that the books which are to be seen in Hindu temples of the Northern Province are equally devoid of literary value, since they are mere copies brought from the neighbouring continent.

I have, &c.,
H. S. O. RUSSELL,
Agent.

LITERARY AND SCIENTIFIC WORK.

PAPERS.

No. 1.

(2.)—*Official Papers.*

HOME DEPARTMENT.

MEASURES FOR THE DISCOVERY AND PRESERVATION OF THE RECORDS OF ANCIENT SANSKRIT LITERATURE.

Extract from a Letter from PANDIT RADHA KISN, *Chief Pandit of the late Lahore Durbar, to His Excellency the Viceroy and Governor-General of India.—Dated* 10*th May*, 1868.

YOUR Excellency has issued orders for collecting the catalogues of Sanskrit, Arabic, and Persian books in existence in many parts of India. There are two things which would complete the information so much desired by the Oriental scholars of Europe and Asia. The Sanskrit list will necessarily remain incomplete unless it contains the names of the books that are in the libraries of the Maharajahs of Jeypoor and Nepaul. The rarest books were collected by the liberal ancestors of the former from the time of Rajah Maun Sing, and as the latter country has never been under the subjection of Mahomedans, the oldest Sanskrit books are to be found there. A similar thing may be done with regard to the Sanskrit books that are in the great libraries of England, Germany, France, and other continental countries of Europe.

List of these books should be published in English and Sanskrit, and anything that Your Excellency is pleased to order for the furtherance of the cause of learning will be highly and gratefully appreciated by the scholars both of Europe and India

(3.)—*Extract from the Proceedings of the Government of India in Home Department* (*Public*) *Nos.* 4,338 *to* 4,348, *under date Simla*, 3*rd November*, 1868.

Read :—

Extract from a letter from Pandit Radha Kisn, of Lahore, to His Excellency the Viceroy, dated the 10th May, 1868, suggesting the compilation of a catalogue of all the Sanskrit manuscripts preserved in the libraries of India and Europe, and stating that anything done towards the encouragement of Sanskrit learning would be gratefully appreciated by scholars.

Note by Mr. Witley Stokes, dated the 6th August, 1868, containing his opinion as to the best course to be followed by Government in order to give effect to the recommendation of Pandit Radha Kisn.

RESOLUTION.—Mr. Stokes is of opinion that such a catalogue as the Pandit contemplates could be satisfactorily compiled only in Europe, and that any attempt to produce it at present would be premature. The following are the principal features of the scheme which he proposes for rendering the production of such a catalogue possible, and otherwise for the encouragement of Sanskrit learning :—

To print uniformly all procurable unprinted lists of the Sanskrit manuscripts in Indian libraries, and to send them to the various learned societies of Europe, and to individual scholars in Europe and India, with an intimation that the Government will carefully attend to their suggestions as to which of the manuscripts therein mentioned should be examined, purchased, or transcribed.

To institute searches for manuscripts, and to this end to prepare lists of desirable codices, to distribute these lists among scholars and other persons willing to assist in the search, with a request that they will report their discoveries to such officer as may from time to time be appointed by the Government of India, and to depute competent scholars on tours through the several Presidencies and Provinces to examine the manuscripts reported upon, to seek new manuscripts, to purchase manuscripts procurable at reasonable rates, and to have copies made of such manuscripts as are unique or otherwise desirable, but which the possessors refuse to part with ; and

To grant to the Asiatic Society of Bengal an additional allowance for the publication of Sanskrit works hitherto unprinted

	Per annum Rs.
25 copyists at Rs 20 per month	6,000
Stationery, Rs 100 per month	1,200
Tour expenses, (1), North-Western Provinces and Panjab ; (2), Oudh and Central Provinces ; (3), Rajputana ; (4), Bombay ; (5), Madras and Mysore, and (6), Bengal, at Rs 1,000 each	6,000
Purchase and manuscripts	6,000
Printing native catalogues and lists of desirable manuscripts	1,000
Additional grant to Asiatic Society of Bengal	3,000
Sundries	800
Total per annum—	24,000

2. The statement given in the margin shews the financial result of the scheme, and the total cost Rs. 24,000 a year, which it would entail on the Imperial revenues, is not extravagant when compared with the importance of the object in view. His Excellency in Council, therefore, records his general approval to the scheme, and requests that the Secretary in the Home Department will, in communication with Mr. Stokes, draw up such further instructions as may be necessary for carrying it out.

ORDER.—Ordered that copy of this Resolution, and of the papers referred to, be forwarded to the Governments of Madras, Bombay, Bengal, North-Western Province and Panjab ; the Chief Commissioners of Oudh and Central Provinces, and the Commissioner of Mysore and Coorg.

Ordered also that a copy of this Resolution, and of the papers referred to, be forwarded to the Financial Department and to the Asiatic Society of Bengal.

Ordered further that a copy of this Resolution, and of the papers referred to, be forwarded to the Foreign Department for communication to the Political Officers under its control.

From A. P. HOWELL, Esq., Officiating Secretary to the Government of India, Home Department, to the Local Governments and Administrations,—Nos. 4,349 to 4,354, dated 3rd November, 1868.

I am directed to forward copy of a Resolution this day recorded by the Governor-General in Council in regard to the discovery and preservation of the records of ancient Sanskrit literature. His Excellency in Council has no doubt that the object in view will enlist zealous co-operation of ; and that among the servants of Government and other gentlemen in , European and Native, several will be found able and willing to assist in its attainment. The circumstances of each Province differ so materially, that it is expedient only to lay down such general rules as may serve to secure the necessary degree of uniform and concerted action.

2. All procurable unprinted lists of Sanskrit MSS. in the Native libraries situate within the territories under , should be printed uniformly in octavo, in the Nágarí character, and under the superintendence of a competent editor, such as Bábu Rajendralala Mitra in Bengal, Mr. Burnell in Madras, and Dr. Buhler in Bombay. Fifty copies of each list so printed will be sent to the Government of India in the Home Department, and the remainder of the edition (which need not exceed 150 copies) may be sold to the public, or otherwise disposed of as the Local Government or Administration thinks fit.

3. Competent scholars should be sent annually on tours to examine the MSS. named in the Native catalogues so printed, to seek new MSS. (especially those named in the lists of desiderata hereinafter mentioned), to explain to Native scholars at the different places visited the objects and importance of the mission, to purchase such MSS. as the possessors are willing to sell at a reasonable rate, and employ copyists to transcribe codices which are unique, extremely old or otherwise desirable, but which the possessors refuse to part with. The gentlemen sent on tours will make reports to their respective Local Governments, and such reports will be transmitted to the Government of India in the Home Department. The annual expense of the several tours should be so arranged as not to exceed, in the case of each Local Government and Administration, the amount marginally noted.

	Rs.
Bengal (L. P.) — — —	1,000
Bombay — — — —	1,000
Madras and Mysore — — —	1,000
North-Western Provinces — — —	500
Panjab — — — —	500
Oudh — — — —	500
Central Provinces — — —	500
Rajputana — — — —	1,000

Note.—The Officer sent by Madras will extend his researches to Mysore.

The Governor-General's Agent will administer the sum appropriated for tours in Rajputana.

4. Scholars, both in India and in Europe, will be invited to transmit lists of desiderata. Those in Europe will be requested to communicate with the Government of India through the Secretary of State, those in India through the Local Governments. From the suggestions so received general lists of desiderata will be prepared and circulated annually, and the notice of Local Governments and Administrations will be drawn to entries in the catalogues received from them, which seem to refer to any work in the lists of desiderata.

5. Subjoined is a specimen form in which, as far as possible, notices of MSS. ascertained to exist may be prepared. Quarterly lists of the MSS. found during the previous quarter will be submitted in this form to the Government of India in the Home Department.

6. Local Governments and Administrations will use their discretion in purchasing or having copies made of the MSS. existing within their jurisdiction. His Excellency in Council would, however, suggest the desirability of bearing in mind the subjects which European scholars deem most valuable, and that MSS. of the Vedas and Vedangas and of their commentaries, law-books, grammars, vocabularies, and philosophical treatises should be regarded as of primary importance. When transcripts are made these should be in the modern Devanagari character. Copies of the Sanskrit MSS. existing in Southern India, if made in the Telugu or other Dravidian character, would be of little use to European Sanskritists and to the large majority of native scholarists.

7. The annual outlay in purchasing and transcribing MSS. should not exceed, in the case of each Local Government and Administration, the amount marginally noted. But if a valuable library be offered for sale, if any rare and rapidly perishing MSS. be available for transcription, or if there be any other ground for incurring extra expenditure, the local authorities should state the facts of the case to the Government of India, which will be ready to sanction any reasonable proposals in this behalf.

	Purchase. Rs.	*Transcription.* Rs.
Bengal (L. P.)	1,000	1,200
Bombay	1,000	1,200
Madras and Mysore	1,000	1,200
N.-W. Provinces	500	500
Panjab	500	0
Oudh	500	600
Central Provinces	500	600
Rajputana	1,000	1,200

Note.—The sum allotted to Madras and Mysore will be expended under the direction of the Madras Government.

That allotted to Rajputana will be expended under the direction of the Governor-General's Agent.

8. The original MSS. and transcripts so obtained should be carefully preserved apart in the office of the Secretariat of each Government and administration, pending the arrangements which may be made in each case for their ultimate disposal. Such arrangements will, from time to time, be communicated through the Government of India in the Home Department. Quarterly lists of the MSS. remaining undisposed of will be forwarded to the Government of India by each Local Government.

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No. 4,355.

Copy to Foreign Department, with request that if there is no objection in that Department, orders to the above effect may be communicated to the Agent of the Governor-General, Rajputana.

No.	Name of MS in modern Devanagari.	Name transliterated in Roman character.	Subject-matter and name of author.	No. of Pages.	No. of lines in each page.	Substance on which written and character.	Where deposited, and in whose possession.	REMARKS.
1	...	Vickramorvaci ...	Urvaci gained by heroism. A Drama by Kálidása	80	24	Palm leaf, in old Canarese character.	Temple in Conjeveram, in the possession of the High Priest.	This MS. the High Priest refuses to sell. It is reported to be very ancient, and is said to have been copied direct from the original MS. of the author. The High Priest has consented to allow a copy to be made under his own inspection, and this is being done in the Devanágari character.

Re-published by order of His Excellency the Governor in Council,

R. S. ELLIS, *Chief Secretary.*

(4.)—*Memorandum.*

MR. Dickson having requested me to offer any observations I may wish to make in regard to Mr. Russell's proposal respecting the discovery and preservation of the records of Ancient Sanskrit literature, I venture to submit the following remarks for consideration.

I do not think it probable that the inspection of the library shelves of the Pansalas of Ceylon is likely to add any Sanskrit manuscripts of any importance to the catalogue that is being prepared in India: nearly, if not all, the Sanskrit manuscripts extant in this country being importations from India.

But if some such scheme as that adopted by the Indian Government be applied not only to the Sanskrit, but also to the Páli and Siñhalese manuscripts in this country, there is every reason to believe that many important historical and other works which are not now accessible to the learned, may be brought to light. Several destructions of literary records of Ceylon in ancient times are recorded in the Mahawanso and other historical works; and the number of important original works now extant in the country is not very great. In almost every Sinhalese or Páli work on history, grammar, general literature, &c., now extant, references are made to more ancient works on those subjects, but which either exist no longer or are not generally accessible. It is, however, the general belief, that many valuable and important manuscripts which are unknown to the learned in Kandy, or the low country, do exist in some of the Buddhist Pansalas and other places in the outlying districts of the Kandyan Provinces, especially in those of the North-Western Province, whence some manuscripts of great value, and formerly not known in the country, have been recently added to the list of works now generally known. Amongst these may be mentioned an ancient Siñhalese copy of "Wemayártha Samuchchaya," containing a summary of the *Winiya Pitaka*, (Laws of the Buddhist Priesthood) written in a very chaste style, contrasting most favorably with the bombastic style of modern Siñhalese writings; and a history of relics of Buddha, containing interesting information respecting parts of the Island which are now comparatively unknown.

Should the proposed inspection of the Buddhist libraries of Ceylon bring to light any works on history not known at present, the interest that may be excited by such discoveries, and the benefits to be derived thereby, will not be confined to Ceylon, but will be shared by the learned in India and Europe. It is now generally believed that the ancient historical records of the Siñhalese are far more valuable and authentic than those of other Indian nations. The Mahawanso, (History of Ceylon) translated into English by the late Hon'ble George Turnour of Ceylon, has been pronounced by high authority to be "the most valuable historical record we possess in relation to Ancient India."

I may also be permitted to add that most of the Buddhist Priests in the interior parts of the Kandyan Provinces in whose charge the Potgulas (libraries) are preserved, are very illiterate and ignorant, and do not know what manuscripts exist in their Pansalas, and it is therefore essentially necessary that *all* the manuscripts in their possession should be inspected by competent persons, who take an interest in the work, and catalogued in the manner proposed by the Indian authorities.

Respectfully submitted,

L. DE ZOYSA,
Chief Translator to Govt.

Colonial Secretary's Office,
Colombo, 12th January, 1869.

I FULLY agree with the Chief Translator that it would be desirable, in the interests of learning and historical research, to make enquiry in Ceylon for unknown Páli and Siñhalese, as well as for Sanskrit manuscripts, and I beg to submit this paper for the favourable consideration of the Colonial Secretary.

JOHN F. DICKSON.

Colombo, 12th January, 1869.

(5.)—*Circular from Government to the Government Agents.*

Colonial Secretary's Office,
Colombo, 4th February, 1869.

I AM directed to invite your attention to the accompanying paper, on the subject of the measures now being taken in India for the discovery and preservation of the records of ancient Sanskrit literature, and I am to inform you that His Honor The Officer Administering the Government would be glad if you would consider what steps could be taken in your Province for ascertaining the contents of the libraries of the various Pansalas, with a view to the discovery of any interesting or unknown manuscripts, Pali and Siphalese, as well as Sanskrit.

As a first step, possibly accurate catalogues of the manuscripts in the various Pansalas might be obtained from the priests, if printed forms were circulated through the agency of your headmen; and in connection with any suggestions you may make on this subject, I shall be glad to receive specimens of any forms which you would propose to circulate.

(6.)—*Mr. Murdoch to the Colonial Secretary.*

I HAVE the honor to submit to His Excellency the Governor a copy of a classified catalogue of printed tracts and books in Siphalese.

While the above catalogue will be useful for some purposes, Oriental scholars wish information respecting the numerous works which still exist only in manuscript, in the possession of temples or individuals, scattered over the Island. The obtaining of a complete list of the books extant in Siphalese and Pali can be obtained only through the aid of Government. Such an enquiry, embracing the whole Island, would form an important department of the work of the Archæological Commission. To conduct it successfully, requires a competent scholar, familiar with the literature of the country, and whose other engagements permit him to devote the requisite time to the investigation. Fortunately the right man is available. James De Alwis, Esq., has written the best account of Siphalese literature which has been published, and is well known to Oriental scholars from his works on Grammar and Buddhism. I have reason to believe that his services would be gladly rendered for such an object.

In the first instance, it would simply be necessary to print a classified catalogue of the manuscripts. A statement explanatory of the object in view should be published in the Government *Gazette*. Copies should be forwarded through the Government Agents to all the Buddhist temples and the native headmen. The Commissioner might send them to any other parties likely to afford assistance.

The following information should be obtained regarding each work:—

1. Where found.
2. The title, with the name of the author, if known.
3. The size: number of leaves, with the length of number of lines in each page. If incomplete, should be mentioned.
4. The subject.

The replies should be forwarded to the Commissioner. A classified catalogue, according to the arrangement suggested by Messrs. Winter, Jones and Watt of the British Museum, might then be made out and printed. The number of MSS. existing of each work, so far as indicated by the replies, might be mentioned.

Copies of the catalogue might be forwarded to Oriental scholars, and books which they considered valuable might be collected. In some cases the owners would be sufficiently patriotic to give them up for such a purpose. When necessary, MSS. might be purchased or copied.

The result of the researches of the late Mr. Turnour lead to the hope that some important works might thus be brought to light. It has already been proved that the historical literature of the Siphalese is the most valuable in the East. Should the enquiry shew that nothing further of importance existed, even this would be of some consequence. In a broader view, however, the investigation would certainly be interesting as an index to the national mind.

The expense would be very trifling, and the catalogue would be prized by Oriental scholars throughout the world. Lists of books in the languages of India are in progress; but Ceylon is the only Buddhistical country, except the south of Burmah, under the British Government. A class of works is found here not now procurable in India.

May I be permitted also to suggest that all printers should be required to supply at least one copy for payment of each work published. The Director of Public Instruction might append a short notice of the native press to his Annual Report. It is true that the publications at present are comparatively few in number and insignificant in character. Still, they are more numerous than might be expected, considering that only a very few years have elapsed since the first press was owned by a native.

JOHN MURDOCH,
Colombo, 15th June, 1869. Agent, Christian Vernacular Education Society.

Enclosure No. 2 in No. 1.

EXTRACTS from the *Ceylon Government Gazette* of 8th January, 1870.

IN continuation of the papers published in the *Gazette* of the 17th July last, the following correspondence with reference to the preparation of a Descriptive Catalogue of Páli, Siphalese, and Sanskrit MSS., and the formation of a Public Library of works in those languages, is

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published for general information, in the hope that, when it is known that it is the intention of the Government to form a Library in the interest of the Sinhalese people, persons will be willing to present some of their duplicate MSS. to the public.

By His Excellency's Command,

HENRY T. IRVING,
Colonial Secretary.

Colonial Secretary's Office,
Colombo, 3rd January, 1870.

(1.)—*From Mr. James Alwis to the Colonial Secretary.*

Silversmith Street,
15th September, 1869.

I HAVE the honour to acknowledge the receipt of your letters of the 15th July last and of the 11th instant, and their enclosures.

For the information of His Excellency the Governor, I beg to state that, owing to ill-health, I have not been as yet able to visit many temples, but that I shall resume the work at an early period.

I purpose to write a descriptive Catalogue of all the Sanskrit, Páli, and Sinhalese books composed and now extant in Ceylon, and to print it in sheets as I proceed, and finally to make an alphabetical index to the whole work. This I find to be the object aimed at, not only in the Indian papers, but in Mr. Murdoch's letter published in the *Government Gazette*. A simple notice of only, what I may consider "valuable or unknown MSS.," as required by your letter, may not, I fear, secure the desired information, nor lessen my trouble and labour, except in the mere writing out of a description of each work. Besides, the many works extant in this Island, though not possessing an interest to any one particular class of readers, may yet be of service to Oriental students in general. I shall therefore be glad to be informed, whether the plan of the work which I propose to adopt meets with His Excellency's approval.

If so, I beg to request that I may be authorized to print the work at the Government Press, free of expense, placing at the disposal of Government, without charge, any number of copies which His Excellency may name.

* * * * * * * *

In the interest of learning, science, and historical research, I beg to submit for His Excellency's consideration the desirability of forming a Library of Páli, Sanskrit, and Sinhalese works. In some of the temples which I have already visited, there are to be found duplicate and triplicate copies of valuable MSS., and it may not be impossible to purchase them, through the agency of Government officials, for a sum considerably below their cost price; and, it is also probable, when it is known that the object of Government is to preserve their records in the interest of the Sinhalese nation, as well as of Science and Learning, that many persons will be disposed to give up some of their duplicate copies without charge. The expense too of getting copies made of such of the works as may not be procured, as above indicated, will not be great. If His Excellency should deem such a collection desirable, it may not be difficult to procure from Burmah a complete set of all the works on Buddhism, which are identical with those in Ceylon, except in the particular character used—which is the Burmese.

Whether, however, a collection of MSS. is made at once, or the scheme be postponed for a future period, it is very desirable to procure from Burmah a list of all the books which the people of that country have from time to time obtained from Ceylon. It is believed—and tradition supports the belief—that amongst those books are some of our most valuable works, which are either rare at present or not extant in Ceylon. And I may here mention, on the authority of the late Mr. George Turnour, that the success of his translation of the *Mahawánsa* was attributable chiefly to a rare correct copy of the Glossary to the *Mahawansa*, which that gentleman obtained through Nadoris De Silva, Mudaliyar, from the Burman Empire.

Adverting to a remark of Mr. De Zoysa in the papers published in the *Gazette*—a remark in the propriety of which I fully concur—I have determined upon visiting all the temples in the Sinhalese districts; and it will be a great help to me to receive from the Government Agents of different Provinces a return of the number of Monasteries or Pansalas, their names, situation, and distances from the nearest rest-house or high road, and also the names and residences of private persons possessing libraries or rare MSS.

In conclusion, I have to report that I have already received from various Government Agents and their Assistants the information which they have collected in pursuance of the Governor's Circular of the 4th February, 1869.

(2.)—*From the Colonial Secretary to Mr. James Alwis.*

Colombo, 25th September, 1869.

I HAVE laid before the Governor your letter of the 15th instant.

I am desired to inform you, in reply, that the plan of the work which you propose to adopt, as explained in the third paragraph of your letter, meets entirely with His Excellency's approval, and that the necessary instructions will be given to place the Government Printing Office at your disposal.

* * * * * * * * * *

As regards your proposal to form a Library of Páli, Sanskrit, and Sinhalese works, I am

desired to state that His Excellency would be glad to receive from you a detailed statement of the steps necessary for carrying out such an object, and its probable cost, both at starting and afterwards annually.

The Government Agents and Assistant Agents will be instructed to furnish you with the particulars you require, respecting number, situation, &c., of Monasteries or Pansalas.

(3.)—*From Mr. James Alwis to the Colonial Secretary.*

Silversmith Street,
8th December, 1869.

* * * * * * * * *

I HAVE carefully considered the subject of forming a Pali, Sanskrit, and Sinhalese Library; and I beg to state briefly my views as to the steps necessary for carrying out such a laudable object.

By far the most valuable and the most voluminous works, which are comprised under the head of *Tripitaka* and their Commentaries, may be procured for a sum not exceeding £500. For their revision, I propose that a sum of £100 be laid out.

The learned High Priest of Adam's Peak is now engaged with a committee of learned priests in the work of revision; and I beg to recommend that the same committee be engaged to furnish to Government, which they are willing to do, a complete set of the books above-mentioned for a given price, which can be ascertained and fixed upon hereafter.

All the other Pali, Sanskrit, and Sinhalese books in this Island, of which I shall furnish a list, need not cost more than £600; and copies of them may be purchased or procured through the instrumentality of the Government Agent of Galle and his Assistants in the Southern Province—the only part of this Island where ola-writing is carried to perfection, and where qualified copyists are to be found.

In my previous letter I indicated that books might be procured in different ways; and I am still not without hope, that many MSS. may be obtained without charge; but these are details which may be left to the parties employed by Government for the collection of books.

A Library, thus formed at a cost of £1,200, may be attached to the Government Record Office. Three large rooms (say 20×25 feet each) will contain all the necessary shelves, which may be constructed of sheet iron, containing a cell for each book, with a lid whereon the name of the book may be marked. The furniture, so far as I can judge, need not cost £300, and thus the entire expense of getting up a Library will be no more than £1,500.

When once the Library has been established, the expense of upkeep will be very trifling. The servants of the Record Office alone will be sufficient to do the needful in respect of the preservation of the books. The Library may be open to the public, subject to rules which the Government may deem proper to prescribe; and the only officer who, so far as I can foresee, will be required to carry out such rules, is a Librarian, whose salary need not be more than £100 per annum.

I beg again to press on the attention of Government the great desirability of forming such a Library, and the manifold and lasting advantages which will accrue thereby to the Sinhalese nation and the English community, not to speak of the benefits which will be derived therefrom in scholars in Europe, and by distinguished travellers who visit Ceylon.

(4.)—*From the Colonial Secretary to Mr. James Alwis.*

Colonial Secretary's Office,
Colombo, 4th January, 1870.

HAVING laid before the Governor and the Executive Council your letter of the 8th ultimo, submitting suggestions for the establishment of a Pali, Sanskrit, and Sinhalese Library, I am desired to inform you that the project meets with the entire approval of the Government, and that His Excellency will be prepared to apply to the Legislative Council for the necessary funds to carry it into effect.

It is His Excellency's wish that you should take a leading part in the formation of the Library, and he would be glad if you would from time to time furnish lists of the books which you think should be procured, naming what you consider a fair price for them, and suggesting in each case the best agency for conducting the negotiations.

Enclosure No. 3 in No. 1.

From the OFFICIATING SECRETARY to the Government of India to the Hon'ble the COLONIAL SECRETARY, Ceylon.

No. 41 B.
Foreign Department, Political.

Dated Fort William, 10th January, 1867.

SIR,—His Majesty the King of Burmah has expressed a wish to present a copy of the whole original Buddhist Scriptures called the "Beedayat" to the Government of Ceylon, stipulating only that the work may be preserved in a suitable building secure from fire.

2.—I am, therefore, directed by the Right Hon'ble the Viceroy and Governor-General in Council to enquire, whether the King's wish can be gratified.

I have, &c.,
J. W. C. WYLLIE,
Officiating Secretary to the Government of India.

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Enclosure No. 4 in No. 1.

The Hon'ble the COLONIAL SECRETARY to the SECRETARY to the Government of India.

No. 7. Colombo, 14th February, 1867.

SIR,—I AM directed by the Governor to acknowledge the receipt of your letter No. 41 B of the 10th ultimo, enquiring whether the wish of the King of Burmah to present to this Government a copy of the whole original Buddhist Scriptures called the "Beedayat," on condition that the work be preserved in a suitable building secure from fire, can be gratified.

In reply, I am to acquaint you for the information of the Right Hon'ble the Viceroy and Governor-General of India in Council, that His Excellency regrets that he cannot at present comply with the stipulation of the King of Burmah, as there is no suitable public building available which is secure from fire.

I have, &c.,
W. C. GIBSON.

Enclosure No. 5 in No. 1.

From the OFFICIATING SECRETARY to the Government of India to the Hon'ble the COLONIAL SECRETARY, Ceylon.

No. 243.
Foreign Department, Political.

Dated Fort William, the 12th March, 1867.

SIR,—IN reply to your letter No. 7, dated 14th ultimo, reporting that the Government of Ceylon is unable to accept the King of Burmah's offer of a copy of the Buddhist Scriptures because there is no suitable public building available in Ceylon for the preservation of the books, I am directed to state, for the information of His Excellency the Governor, that from a personal explanation recently made to me by Colonel Phayre, the Chief Commissioner of British Burmah, it appears that the King is prepared to undertake the construction of a suitable building at his own cost, if the Ceylon Government will grant a site for the purpose.

2nd. Therefore, before conveying to His Majesty the substance of your letter under acknowledgment, I am instructed by the Right Hon'ble the Governor-General in Council to enquire, what the views of the Ceylon Government may be in the aspect of the case as it now stands.

I have, &c.,
J. W. C. WYLLIE,
Officiating Secretary to the Government of India.

Enclosure No. 6 in No. 1.

The Hon'ble the COLONIAL SECRETARY to the SECRETARY to the Government of India, Fort William.

No. 20. Colombo, 12th April, 1867.

SIR,—IN acknowledging the receipt of Officiating Secretary Mr. Wyllie's letter No. 243 of the 12th ultimo, I am directed to acquaint you for the information of the Right Hon'ble the Governor-General in Council, that the Governor of Ceylon thankfully accepts the King of Burmah's gift on the terms which it appears from that letter His Majesty is willing to offer.

I have, &c.,
JAMES SWAN,
for Colonial Secretary.

No. 2.

No. 2.

From Earl GRANVILLE, K.G., to Governor Sir HERCULES G. R. ROBINSON, K.C.M.G.

Ceylon.
No. 53.

Downing Street,
9th March, 1870.

SIR,—I HAVE learnt with much interest from your despatch No. 20 of the 11th January that your Government has sanctioned the preparation of a descriptive catalogue of the Pâli, Sinhalese, and Sanskrit manuscripts to be found in the libraries of the Pansalas and other places in Ceylon, and that it is proposed to form a Public Library of works in those languages.

I can well understand that a complete copy of the Buddhist scriptures—the Tripitaka—which the King of Burmah has promised to present to the Ceylon Government, will be a most valuable contribution to the proposed library.

I forwarded to Professor Max Müller a copy of your despatch, and I annex for your information copies of the correspondence which has passed between him and this Department.

By the Southampton mail of the 4th instant I forwarded to you a copy of a book entitled "Buddhagoshas Parables," which has been recently published by Professor Max Muller, and which contains some general information in regard to the sacred literature of Ceylon and Burmah.

I have, &c.,
GRANVILLE.

Enclosure No. 1 in No. 2.

Mr. Herbert to Professor Max Muller.

Downing Street,
22nd February, 1870.

Sir,—I am directed by Earl Granville to transmit to you a copy of a despatch from Sir Hercules Robinson, reporting that the Government of Ceylon has sanctioned the preparation of a descriptive catalogue of the Pali, Sinhalese, and Sanskrit manuscripts to be found in the libraries of the Pansalas and other places in that Colony, and that it is proposed to form a public library of works in those languages. The Governor also encloses in his despatch copy of a correspondence relating to an offer made by the King of Burmah to present to the Colonial Government a complete copy of the Buddhist Scriptures.

I am to state that Lord Granville would be much obliged to you for any observations which may occur to you in reference to these subjects, and he has desired me to suggest that you should confer with the Sanskrit Professors at Oxford and Cambridge and any other gentlemen whose opinion it may be advantageous to His Lordship to have jointly with your own, if you can spare the time, and would not be unwilling to undertake the trouble which such a conference would involve.

I am, &c.,
R. G. W. HERBERT.

P.S.—It is requested that the original enclosures may be returned to this Department when done with.

Enclosure No. 2 in No. 2.

Professor Max Muller to Mr. Herbert.

Park's End, Oxford,
23rd February, 1870.

Sir,—I have to acknowledge the receipt of your letter dated 22nd February, and of three enclosures having reference to the preparation of a catalogue of native manuscripts in the Colony of Ceylon.

I have to request that you will convey to Earl Granville my best thanks for this interesting communication, and to assure His Lordship that I shall endeavour to the best of my power to report on this important subject.

I have, &c.,
MAX MULLER.

Enclosure No. 3 in No. 2.

Mr. Herbert to Professor Max Muller.

Downing Street,
4th March, 1870.

Sir,—I am directed by Earl Granville to acknowledge the receipt of your letter of the 23rd ultimo, expressing your readiness to assist in the preparation of a catalogue of Native Manuscripts for the Colony of Ceylon, and I am to thank you for that communication.

His Lordship has desired the Crown Agents to purchase for the use of the Ceylon Government the book published by you containing general information on the sacred literature of Ceylon and Burmah, and I am to add that Lord Granville will have much pleasure in forwarding through this Department any official letters which you may find it necessary to address to the Government of that Colony in reference to that or kindred subjects.

I have, &c.,
R. G. W. HERBERT.

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March 21, 1870.

No. 3.

EARL GRANVILLE, K.G., to Governor Sir HERCULES G. R. ROBINSON, K.C.M.G.

Ceylon.
No. 84.

Downing Street,
14th April, 1870.

SIR,—WITH reference to my Despatch No. 53 of the 9th March, I have the honor to transmit to you a copy of an important letter from Professor Max Müller in regard to the measures taken by your Government for making a collection of manuscripts—Páli, Siphalese, and Sanskrit—which are still to be found in Ceylon.

Mr. Max Muller has informed me that he has not yet been able to effect a meeting with the Sanskrit Professors at Cambridge.

I have, &c.,
GRANVILLE.

Enclosure in No. 3.

Professor MAX MULLER to MR. HERBERT.

Park's End, Oxford,
March 21st, 1870.

SIR,—I HAVE read with great interest the papers forwarded to Lord Granville by Sir Hercules Robinson, stating the measures which have lately been taken by the Ceylon Government for making a collection of MSS.—Páli, Sinhalese, and Sanskrit—that are still to be found in Ceylon, and publishing without delay a catalogue of the same.

In taking measures for the preservation of the ancient literature of India and Ceylon, the Government is performing a duty which in the present state of the country could be efficiently performed by no one else.

Whatever, according to the varying judgment of European scholars, the intrinsic value of the ancient literature of India may be, the fact remains that through all the vicissitudes of their past history the inhabitants of that country have from century to century handed down their literary treasures with the greatest care, and have thus preserved to us a literature which in antiquity exceeds that of Italy and Greece, nay possibly of every other country in the world. From the days of Sir William Jones the interest excited by the ancient literature of India among European scholars has been steadily increasing, and it seems certainly a strange fact, that while English education is rapidly spreading all over India, professorships should be founded in every University of Europe for teaching the ancient language and literature of the Brahmans.

It would by no means be fair to charge the English Government with indifference as to the ancient literature of its Indian subjects.

Both the East India Company and the Indian Ministry have repeatedly afforded their patronage to editions of texts and translations from Sanskrit literature, and the collection of Sanskrit MSS., which has gradually been brought together in the East India House, and is now preserved at the India Office, is, without comparison, the largest and most valuable in Europe.

At the same time, it cannot be doubted that more energetic measures are required in order to prevent the loss of a literature which exists chiefly in MSS., and which with the progress of English education and the spread of English ideas in India is losing in the eyes of many of the natives that importance which it formerly possessed. In former days most native Princes considered it their duty to keep up a library, and to maintain a staff of librarians whose office it was to copy each MS. as soon as it began to shew signs of decay. Sanskrit MSS. are mostly written on paper made of vegetable substances, and unless preserved with great care they seldom last in the sultry climate of India beyond three or four centuries. When the native Princes were mediatised and pensioned by the English Government, one of the first retrenchments in their establishments consisted in the abolition of their libraries and the dismissal of their librarians. Some of the Rajahs offered their libraries as presents to the East India Company, but report says that a rule was passed excluding libraries from the class of presents acceptable to the Company.

The result is that in different parts of India collections of ancient MSS. have crumbled to dust, and that literary works which had been preserved for centuries have been lost for ever.

During and after the late mutiny so many accounts of the wanton destruction of libraries came to my knowledge, that I ventured to make a representation to Lord Elgin before he left England as Governor-General, urging him to sanction some plan for the preservation of the ancient literature of India. Lord Elgin promised to keep the matter in mind, and I doubt not that if his life had been spared, we should have had an Elgin collection of Oriental MSS. which need not have feared comparison with the Elgin collection of marbles at the British Museum. My letter to Lord Elgin would probably be found in his official correspondence.

I was much pleased therefore to find, when reading the letter from Pandit Radha Kisn to His Excellency the Viceroy, dated 10th May, 1868, that what I had so long advocated had at last taken a practical shape, and I trust that nothing will now interfere with the carrying out of the judicious measures sanctioned by the Indian Government for the collection and preservation of Sanskrit manuscripts.

With regard to Ceylon, it seems to me that it would there be even easier to carry out the plan adopted by the Indian Government than in India itself.

The literature of Ceylon is much more limited. It is the literature of an Island, and what is important in it is almost entirely restricted to the sacred literature of Buddhism. I doubt whether in Ceylon there are manuscripts more ancient than those of India, for although the materials on which they are written (palm or bambu leaves) are far more durable than paper, political and religious convulsions seem to have caused the destruction of the ancient libraries of the temples and monasteries; still, there is no reason why a careful search should not be made for ancient manuscripts, or fragments of ancient manuscripts; and in case they should be found, it would seem expedient to preserve carefully made copies in Ceylon, but to transfer the originals to England, where they would be in safer keeping than anywhere else. It is important to observe that even paper manuscripts which begin to shew signs of decay in India are perfectly safe as soon as they are brought to the colder climate of England. I possess myself manuscripts which had suffered much from damp and insects while in India, but which now seem to resist all further ravages.

The principal object of the collectors should be to bring together a complete set of the canonical books of the Buddhists with their commentaries, whether in Pali or Sinhalese. The titles and contents of most of these books are known to every student of Buddhism, and the munificent present of a complete copy of the Buddhist canon from the king of Burmah would enable any Pali scholar to make out an accurate list of the books contained in it. It would thus be easy, after the most accessible manuscripts have been brought together, to draw up a list of deficiencies, and to send it to the principal monasteries and libraries in Ceylon. It would not require any large outlay to have the whole of the now existing Pali literature of Ceylon carefully transcribed, and the copies preserved in a safe place. It would be still better, wherever it is possible, that the original manuscripts should be bought and preserved; and I may state that on several occasions I have found possessors of ancient and slightly damaged manuscripts in India ready to exchange them for a modern copy.

The publication of a catalogue of the MSS. thus collected would be of great use to scholars in Europe, and it is much to be desired that the making of such a catalogue should be entrusted to one or several really competent Páli scholars. It might be well at first to print a specimen only, and to send that specimen for approval to some Páli scholars in Europe. In printing extracts it would be most desirable to adopt the Roman alphabet, and strictly to adhere to some definite system in transcribing Páli letters by Roman letters. Great care should also be taken that the extracts are given correctly, and, if possible, with a literal translation.

I return the original enclosures.

I have, &c.,
MAX MULLER.

No. 4.

No. 4.

The Earl of KIMBERLEY to Governor Sir HERCULES G. R. ROBINSON, K.C.M.G.

Ceylon.
No. 33.

Downing Street,
24th February, 1871.

SIR,—I TRANSMIT to you herewith the copy a letter from Mr. R. Rost, Librarian to the India Office, which I have received through that Department, requesting the assistance of your Government towards the formation of a collection of old inscriptions in Ceylon to supplement the archæological collections already formed in India.

Feb. 8, 1871.

Mr. Rost is also anxious that the Library at the India Office should be supplied with a set of the Journal of the Ceylon Branch of the Royal Asiatic Society, and various publications in Sanskrit and Páli said to be printed in Ceylon.

I should be glad to know how far it is practicable to meet the wishes expressed by Mr. Rost, and what would be the probable cost of giving effect to his views.

I have, &c.,
KIMBERLEY.

Enclosure in No. 4.

Mr. ROST to Mr. MERIVALE.

India Office,
8th February, 1871.

DEAR SIR,—GENERAL Cunningham's archæological labours will be incomplete unless they are supplemented by a collection of the Ceylon inscriptions, which throw so much light on Indian History. There are many hundreds of them, some as old as the time of Asoka; but few of which have ever been copied. An archæological survey of Ceylon comprising a collection of all the old inscriptions, would cost comparatively little. While the

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expenditure would be of no account to so rich an exchequer as that of Ceylon, the promotion of such an enterprise would do the greatest credit to the Colonial Government, and be sure to yield the most valuable results. But it is not probable that any vigorous action will be taken unless the subject is initiated and strongly urged by the Colonial Office. I would therefore ask you, if you approve of my suggestion, to be so good as to lay this matter before the Secretary of State for the Colonies.

I have another request to make in reference to Ceylon. We want a set of the Journal of the Ceylon Branch of the Royal Asiatic Society, which is not procurable in London complete, as the Colombo Society has no literary agency here. There are also various other publications in Sanskrit and Páli, printed in Ceylon, which it would be desirable to add to our library. It would be a great boon to us if the Colonial Office would send instructions to Ceylon for the regular supply to this library of the above-mentioned Journal and native books.

I have, &c.,

R. ROST.

No. 5.

No. 5.

Governor Sir HERCULES G. R. ROBINSON, K.C.M.G., to the Earl of KIMBERLEY.

No. 181.
Miscellaneous.

The Pavilion, Kandy,
Ceylon, July 16th, 1871.

My LORD,—I HAVE the honor to acknowledge the receipt of Your Lordship's despatch No. 33 of the 24th February last, transmitting to me copy of a letter from Mr. R. Rost, Librarian to the India Office, respecting the assistance of this Government towards the formation of a collection of old inscriptions in Ceylon, to supplement the archæological collections already formed in India.

2. A Commission was appointed by me in 1868 to consider what practical measures should be adopted for the conservation of the ancient architectural structures and other works of art in Ceylon. I caused Your Lordship's despatch to be referred to this Commission, and I enclose a copy of the reply received from them. It will be seen from this letter that the work which Mr. Rost proposes should be undertaken by this Government has already been commenced, and is now in progress. The Commission are of opinion that the result of their labours should not be placed at the disposal of General Cunningham, to be published with his work, but that they should complete the collection of inscriptions which they are now making, publish them, and then present a copy to the India Office.

July, 1, 1871.

3. With regard to Mr. Rost's request, that the Library at the India Office should be supplied with a set of the Journal of the Ceylon Branch of the Royal Asiatic Society, and certain native books, the Secretary to the Archæological Commission will put himself in communication with the President of the Society, and report the result hereafter.

I have, &c.,

HERCULES ROBINSON.

Enclosure No. 1 in No. 5.

The Hon'ble the COLONIAL SECRETARY to the SECRETARY to the Archæological Commission.

Colombo, 27th March, 1871.

GENTLEMEN,—I AM directed by the Governor to refer to you for report the enclosed despatch from the Secretary of State for the Colonies, forwarding copy of a letter from Mr. R. Rost, Librarian to the India Office, requesting the assistance of the Ceylon Government towards the formation of a collection of old inscriptions in this Island to supplement the archæological collections already formed in India.

I am, &c.,

ALLANSON BAILEY,
for Colonial Secretary.

Enclosure No. 2 in No. 5.

The SECRETARY to the Archæological Commission to the Hon'ble the COLONIAL SECRETARY.

Colombo, 1st July, 1871.

SIR,—I HAVE the honor to acknowledge the receipt of your letter of the 27th of March last, referring to the Archæological Commission for report an enclosed despatch from the Secretary of State for the Colonies, and copy of a letter from Mr. Rost, the Librarian to the India Office, requesting the assistance of the Ceylon Government towards the formation of a collection of old inscriptions in the Island to supplement the archæological collections already formed in India.

His Excellency the Governor having appointed an Archæological Commission, with instructions to make a collection of ancient inscriptions, Mr. Rost will be glad to hear that the important work which he proposes should be undertaken has already been begun.

The Commission are of opinion that the result of their labours should not be placed at the disposal of General Cunningham to publish with his work, but that the Commission should complete the collection of inscriptions, which they are now making, publish them, and then present a copy to the India Office.

In regard to Mr. Rost's request that the Journal of the Ceylon Branch of the Royal Asiatic Society and certain native books be supplied to the Library of the India Office, I beg to state that I have put myself in communication with the President of the Society on the subject, and hope shortly to be able to forward the result.

I have, &c.,

JAMES G. SMITHER,
Secretary to Archæological Commission.

No. 6.

No. 6.

Governor Sir HERCULES G. R. ROBINSON, K.C.M.G., to the Earl of KIMBERLEY.

No. 250.
Miscellaneous.

Queen's House, Colombo,
Ceylon, October 11th, 1871.

Sept. 30, 1871.

MY LORD,—I HAVE the honor to forward a letter from Mr. J. Alwis, together with the copy of the first volume of a catalogue of ancient literary works in manuscript, which accompanied it, and of which he requests Your Lordship's acceptance.

I have great pleasure in bringing Mr. Alwis's name to your favorable notice. He is a native gentleman who has devoted a great portion of his time to the study of Oriental literature. He deserves much credit for his public spirit in undertaking, without remuneration, a work which is likely to prove very valuable in the interests of learning and historical research.

I have, &c.,

HERCULES ROBINSON.

No. 7.

No. 7.

The Earl of KIMBERLEY to Governor Sir HERCULES G. R. ROBINSON, K.C.M.G.

Ceylon.
No. 276.

Downing Street,
11th December, 1871.

SIR,—I HAVE the honor to acknowledge the receipt of your despatch No. 250 of the 11th of October, forwarding a letter addressed to me by Mr. J. Alwis, accompanied by the first volume of a catalogue of ancient literary works in manuscript, which he has been good enough to present to me.

I request you to convey to Mr. Alwis my best thanks for the volume, and my high appreciation of the value of the undertaking in which he is engaged.

I also request that you will procure for the Library of this Department a copy of this volume of Mr. Alwis' work, and of subsequent volumes whenever they may be published.

I am, &c.,

KIMBERLEY.

No. 8.

No. 8.

Governor Sir HERCULES G. R. ROBINSON, K.C.M.G., to the Earl of KIMBERLEY.

No. 266.
Miscellaneous.

The Queen's House,
Colombo, October 31st, 1871.

October 26, 1871.

MY LORD,—WITH reference to your despatch No. 33 of the 24th February last, intimating that the Librarian to the India Office is anxious that the library should be supplied with a set of the Journal of the Ceylon Branch of the Royal Asiatic Society and the various publications in Sanskrit and Pâli said to be printed in Ceylon, and to my despatch No. 181 of the 16th July last, I have now the honor to enclose copy of a letter from the Honorary Secretary to the Royal Asiatic Society, Ceylon Branch, forwarding, for the acceptance of the India Office Library, the Journals of the Society, as well as certain publications in Sanskrit and Pali, which they have been able to collect.

I have, &c.,

HERCULES ROBINSON.

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No. 9.

December 23, 1871.

No. 9.

The Earl of KIMBERLEY to Governor Sir HERCULES G. R. ROBINSON, K.C.M.G.

Ceylon.
No. 286.

Downing Street,
27th December, 1871.

SIR,—WITH reference to your despatch No. 266 of the 31st October, I transmit to you herewith a copy of a letter from the India Office respecting the publications of the Ceylon Branch of the Royal Asiatic Society, forwarded for the use of the Library of the India Office.

I have, &c.,
KIMBERLEY.

Enclosure in No. 9.

Mr. MERIVALE to Mr. HERBERT.

India Office, S. W.,
23rd December, 1871.

SIR,—I AM desired to acknowledge the receipt of your letter of the 7th instant, and in reply to request that you will be so good as to cause the acknowledgments of the Secretary of State for India in Council to be conveyed through the Governor of Ceylon to the President and Committee of the Ceylon Branch of the Royal Asiatic Society, for the very valuable works which they have presented to the library of this office.

I am desired to add that Sanskrit and Páli works are at all times acceptable additions to this library.

I am, &c.,
HERMAN MERIVALE.

No. 10.

No. 10.

The OFFICER ADMINISTERING THE GOVERNMENT to the Earl of KIMBERLEY.

No. 28,
Miscellaneous.

The Pavilion, Kandy,
Ceylon, January 23rd, 187

MY LORD,—WITH reference to the second paragraph of Your Lordship's despatch No. 276 of the 11th ultimo, I have the honor to forward for the use of the library of the Colonial Office a copy of the first volume of Mr. Alwis' catalogue of Ancient Literary Works in manuscript, as requested by Your Lordship.

I have, &c.,
HENRY T. IRVING.

No. 11.

No. 11.

Governor the Right Hon'ble W. H. GREGORY to the Earl of CARNARVON.

No. 2.
Miscellaneous.

Queen's House, Colombo,
17th August, 1874.

MY LORD,—FOR some time past I have been desirous of taking in hand the reproduction of the numerous inscriptions throughout Ceylon, and my recent visit to England has more than ever stimulated that desire, from the great interest taken at present in the investigation of Oriental literature both for historical and for philological research.

2. At present, Captain Hogg of the Royal Engineers is engaged in the North-Central Province in this work, but is about to be removed.

3. In too many cases the inscriptions have been injured by time, and unless a person has a knowledge of the general character of the letters and the words, the mistakes into which he is likely to fall in copying them will not be few, and will tend to mar altogether the utility of the work.

4. Under these circumstances, when in England I consulted Mr. Eggeling, Secretary to the Asiatic Society, and he has recommended a German gentleman, Dr. Goldschmidt, as the best person for the task with whom he is acquainted, and whose qualifications will be laid before you.

5. I should be prepared, with Your Lordship's sanction, to offer Dr. Goldschmidt 4,000 rupees per annum for an engagement of three years, with power for either party to conclude the engagement at the expiration of the first or second year. He should have his travelling expenses, a tent when required, and a proper staff of coolies, also a free first class passage out and home.

6. It might also be convenient for him to take out a competent photographer with his materials, but I do not consider that an expensive artist need be engaged, as the duties will be simply that of carefully reproducing the inscriptions, and artistic taste and education would not be a requisite.

7. Before coming to an engagement with Dr. Goldschmidt. I am of opinion that it would be well if Mr. Childers of the India Library should see that gentleman, and report to you as to his competency.

8. If Your Lordship approve of this proposal and is satisfied with Mr. Childers' report, I have no doubt but that the Legislative Council will gladly vote the small sum required to rescue from oblivion a large body of ancient inscriptions referring to historical events, religious and social customs, many of them in dialects but little understood as yet, but which, when elucidated, will, it is believed, be valuable additions not only to Oriental, but to comparative philology in general.

I have, &c.,

W. H. GREGORY.

No. 12.

No. 12.

Governor the Right Hon'ble W. H. GREGORY to the Earl of CARNARVON.

No. 15.
Miscellaneous.

The Pavilion, Kandy,
Ceylon, 5th September, 1874.

MY LORD,—I HAVE the honor herewith to forward to Your Lordship the photographs taken hitherto by Capt. Hogg, R.E., of inscriptions in the North-Central Province. I cannot expect to retain the services of Capt. Hogg for more than a couple of months, and I have already addressed Your Lordship on the subject of engaging Dr. Goldschmidt to carry out the reproduction of the great bulk of the inscriptions in Ceylon.

I shall feel obliged if Your Lordship will refer these photographs to Mr. Childers of the India Library, and request him to confer with Mr. Eggeling of the Asiatic Society and with Dr. Rost, and to favour me with his observations upon them as the best mode of rendering them of use to the Oriental student.

I am, &c.,

W. H. GREGORY.

No. 13.

No. 13.

Governor the Right Hon'ble W. H. GREGORY to the Earl of CARNARVON.

No. 61.
Miscellaneous.

Queen's House, Colombo,
20th October, 1874.

MY LORD,—I AM informed that there is at present a large stock of valuable works on various subjects connected with Oriental Literature in the India Library, and that these works are presented at times to public institutions and to scholars. It would be very desirable to obtain copies of these works for the Library of the Colombo Museum, and I shall feel obliged if Your Lordship will request the Secretary of State for India to let us have whatever can be spared.

2. I shall be happy in return to send to the India Library copies of any books published in Ceylon, and among others a copy of the photographs of the ancient cities of Anurádhapura and Pollonaruwa which costs £54, if Your Lordship have no objection.

3. The books to which I have referred should, if presented to us, be sent to the Crown Agents for binding and transmission.

I am, &c.,

W. H. GREGORY.

No. 14.

No. 14.

The Earl of CARNARVON to Governor the Right Hon'ble W. H. GREGORY.

Ceylon.
No. 187.

Downing Street,
3rd November, 1874.

SIR,—WITH reference to your despatch No. 2 of the 17th of August I have the honor to transmit to you copies of the correspondence that has taken place between this Department and Mr. Childers as to the engagement of Dr. Goldschmidt to examine and collect the ancient inscriptions of the Colony.

I have been glad to observe that you have taken up this interesting subject with a full appreciation of the utility of actively pushing on the work you propose.

Your despatch No. 15 of the 5th of September and Colonel Hogg's photographs have been communicated to Mr. Childers.

I have, &c.,

CARNARVON.

Colonial Office to Mr. Childers, 25th September, 1874.
Mr. Childers to Colonial Office, 30th September, 1874
Colonial Office to Mr Childers, 10th October, 1874.
Mr. Childers to Colonial Office, 12th October, 1874.
Mr. Childers to Colonial Office, 15th October, 1874.
Colonial Office to Mr. Childers, 30th October, 1874.
Mr. Childers, 31st October, 1874.

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No. 14.

No. 2, Aug. 17, 1874.

Enclosure No. 1 in No. 14.

Mr. HERBERT to Mr. CHILDERS.

Downing Street,
25th September, 1874.

SIR,—I AM directed by the Earl of Carnarvon to forward to you for any observations which your recent consideration of this subject may enable you to offer, a copy of a despatch from the Governor of Ceylon respecting the proposed appointment of Dr. Goldschmidt to collect inscriptions and examine the historical monuments of that Colony; and I am to state that Lord Carnarvon would be glad to receive your reply to this letter at an early date.

I have, &c.,
R. G. W. HERBERT.

Enclosure No. 2 in No. 14.

Mr. CHILDERS to Mr. HERBERT.

38, Clanricarde Gardens,
Bayswater, September 30, 1874.

SIR,—I HAVE the honor to acknowledge the receipt of your letter of the 25th instant, asking for my observations on a despatch from the Governor of Ceylon with reference to the proposed appointment of Dr. Goldschmidt to collect inscriptions in that Island.

My delay in replying to your letter was caused by Dr. Goldschmidt's absence from town. I have now seen him and submitted to him Mr. Gregory's despatch.

I will begin by saying that, in my opinion, Dr. Goldschmidt is thoroughly fitted for the post offered to him. In this opinion I am supported by Dr. Rost, the Librarian of the India Office, by Professor Eggeling, and by Dr. Weber of Berlin. I have already written to His Excellency in detail as to his qualifications.

Dr. Goldschmidt agrees with His Excellency as to the advisability of taking out with him a competent photographer, and will be glad to do his best to engage one.

I have, &c.,
ROBERT C. CHILDERS.

Enclosure No. 3 in No. 14.

The COLONIAL OFFICE to Mr. CHILDERS.

Downing Street, 10th October, 1874.

SIR,—IN reply to your letter dated the 30th of September last, I am directed by the Earl of Carnarvon to state that he is prepared to offer Mr. Goldschmidt a salary of 4,800 rupees, and would not object to his receiving whilst actually travelling an allowance such as is granted in similar cases to civil servants receiving a corresponding salary.

2. Lord Carnarvon would be glad to learn whether Dr. Goldschmidt is willing to accept the appointment on these terms; and if he is, I am to request you to invite him to recommend for His Lordship's approval, the name of a photographer, as suggested in the 6th paragraph of Mr. Gregory's despatch of the 17th of August, a copy of which was forwarded to you in my letter of the 25th ultimo, and to state what he estimates to be the probable cost attendant upon the employment of the photographer, bearing in mind that no large expenditure can be incurred on this account.

I am, &c.,
JULIAN PAUNCEFOTE.

Enclosure No. 4 in No. 14.

Mr. CHILDERS to the Earl of CARNARVON.

38, Clanricarde Gardens, W.
October 12, 1874.

MY LORD,—I HAVE this day seen Dr. Goldschmidt, and am requested by him to say that he has much pleasure in accepting the terms offered by Your Lordship's letter of the 10th instant: that is to say, a salary of £480 a year and an allowance, whilst actually travelling, such as is granted in similar cases to civil servants receiving a corresponding salary.

At my suggestion Dr. Goldschmidt has written to Berlin to enquire for what salary the services of a German working photographer could be obtained. I will myself institute similar enquiries in London, and I hope ere long to be able to communicate the result to Your Lordship. I should be disposed roughly to estimate the cost attendant on the employment of a photographer at from £200 to £250 a year, with passage paid out and back, and a small grant for the purchase of apparatus and materials.

I have, &c.,

ROBERT C. CHILDERS.

Enclosure No. 5 in No. 14.

Mr. CHILDERS to the Earl of CARNARVON.

38, Clanricarde Gardens,
Bayswater, October 15th, 1874.

MY LORD,—BEFORE commencing the enquiries promised in my letter of the 12th instant, I consulted my friend Mr. James Fergusson, F.R.S., whose great experience in all matters connected with photography makes his advice on a question of this sort highly valuable.

He at once expressed to me his conviction that it would be next to impossible to meet with a competent photographer, of undoubted character, willing to proceed to Ceylon on any but a high rate of salary; and he proceeded to suggest a course which I venture to think will at once commend itself to Your Lordship.

It is that Your Lordship should apply to the Commander-in-Chief for the temporary services of a soldier of the Royal Engineers, to accompany Dr. Goldschmidt to Ceylon and take photographs under his direction.

Precedents are offered by the recent Sinai Peninsula expedition, and by the survey now being carried out in Palestine, and Mr. Fergusson thinks that the application on behalf of the Ceylon Government would be positively welcomed by the military authorities. The saving of expense would probably be great, and all uncertainties as to character and efficiency would of course be obviated.

I have just received from Mr. Fergusson a letter, which I have the honour to enclose. As, however, the Governor of Ceylon has only asked for a photographer, I see no reason for sending out two sappers. Should His Excellency ultimately decide—as I earnestly hope—on having surveys and plans made of the ruined cities, it will always be easy to detach an engineer from the Colombo garrison for that duty.

I have, &c.,

ROBERT C. CHILDERS.

Enclosure No. 6 in No. 14.

The UNDER SECRETARY of STATE, Colonial Office, to Mr. CHILDERS.

Downing Street,
30th October, 1874.

SIR,—I AM directed by the Earl of Carnarvon to acknowledge the receipt of your letters of the 12th and 15th October, respecting the engagement of Dr. Goldschmidt by the Government of Ceylon.

2. I am to point out that the salary offered to Dr. Goldschmidt in the letter from this Department of the 10th instant was not £480, but 4,800 rupees, which is equivalent to £450 at 1-10½*d.* the rupee, the rate of translation now adopted in Ceylon for all Government accounts; and as your letter makes no further allusion to the question of copyright, I am to recall your attention to His Lordship's views on this point, as it must be clearly understood that Dr. Goldschmidt's time and work are to be the property of the Colony.

3. With respect to the selection of a photographer, I am to state that your suggestion will be brought under the consideration of the Secretary of State for War.

4. I am to enclose, for your consideration, a copy of a despatch from Mr. Gregory, forwarding photographs of inscriptions taken by Captain Hogg, R.E.

I am, &c.,

JULIAN PAUNCEFOTE.

Enclosure No. 7 in No. 14.

Mr. CHILDERS to the Earl of CARNARVON.

38, Clanricarde Gardens, Bayswater, W.,
October 31st, 1874.

MY LORD,—IN reply to Your Lordship's letter of yesterday's date, I have the honor to say that Dr. Goldschmidt, though he was like myself under the impression that Rupees 4,800 were equivalent to £480, is willing to accept the salary of £450 per annum.

LITERARY AND SCIENTIFIC WORK. PAPER. No. 14.

Captain Hogg's photographs appear likely to be of great interest. I shall take an early opportunity of conferring upon them with Professor Eggeling and Dr. Rost, and shall forward my report to Your Lordship for transmission to Mr. Gregory.

I have, &c.,

ROBERT C. CHILDERS.

No. 15.

No. 15.

The Earl of CARNARVON to Governor the Right Hon'ble W. H. GREGORY.

Downing Street,
25th November, 1874.

No. 209.

Mr. Childers to C. O., Nov. 13.

C. O. to W. O., Oct. 30.
W. O. to C. O., Nov. 12.
C. O. to Dr. Goldschmidt, Nov. 19.
Dr. Goldschmidt to C. O., Nov. 20.
C. O. to W. O., Nov. 25.
C. O. to Dr. Goldschmidt., Nov. 25.

SIR,—IN continuation of my despatch No. 187 of the 3rd of November last, I have the honor to enclose a copy of Mr. Childer's answer to the letter addressed to him by my direction on the 30th of last month, a copy of which is already in your hands.

I enclose likewise a correspondence with the War Office and Dr. Goldschmidt, from which you will learn the conditions upon which the services of Corporal Sharp of the Royal Engineers, have been secured in aid of Dr. Goldschmidt's mission. From the correspondence with Mr. Goldschmidt, you will learn the time from which you should pay him his half salary, and also that an allowance will have to be made to him equivalent to the usual passage from Southampton.

I have, &c.,

CARNARVON.

Enclosure No. 1 in No. 15.

Mr. CHILDERS to the Earl of CARNARVON.

38, Clanricarde Gardens, W.,
13th November, 1874.

MY LORD,—I HAVE the honor to enclose for transmission to Mr. Gregory my report upon a set of thirty Ceylon photographs taken by Captain Hogg, R.E., which accompanied Your Lordship's letter of the 30th October. The photographs are herewith returned.

I have, &c.,

ROBERT C. CHILDERS.

OPINION on Thirty Photographs of Ruins and Inscriptions in Ceylon, taken by Captain Hogg, R.E.

THESE photographs have been submitted by me to Dr. Rost and Professor Eggeling, and I have myself given them a lengthened examination.

We are agreed in thinking that, though of great interest, they exhibit the characteristic defects of unaided photography when employed for certain scientific purposes.

Three of the inscriptions have come out so well, that of the words they contain probably nine-tenths might be read from the photographs as they stand. The remaining tenth consists of words more or less uncertain. Now, if instead of a single photograph of each of these three inscriptions, we had *several*, taken at different times of the day, it is possible that the doubtful words might be all, or nearly all, recovered, since lines which are invisible in a photograph taken at one hour of the day, often stand out clearly in a photograph taken three or four hours earlier or later. But the necessity of multiplying photographs of each of these inscriptions would be obviated, if the reader had the inscription before him, and was able to supplement the imperfect photographic representation by the eye and the touch.

By a curious coincidence the last mail from Ceylon brought me a transcript in the Siphalese character of one of these very inscriptions, made by a Buddhist priest from an ocular inspection of the inscribed slab. He has succeeded in making out the whole inscription, which could not I think be done from the single photograph taken by Captain Hogg.

I have no doubt that these three inscriptions, when fully deciphered, will yield valuable results, but they are no earlier than the 12th century A.D., and unfortunately inscriptions are, as a general rule, well preserved in inverse proportion to their antiquity and consequent value. Among the photographs there are a number of inscriptions which from their high antiquity are probably of very great importance, but which it would not be possible to decipher and translate from the photographs alone. A few will require every available process: for instance, two or three photographs taken at different times of the day, long and careful ocular examination, and the collection of relief copies taken from the rock by squeezes. I see, however, no reason why even the most difficult of these inscriptions should

not be more or less fully deciphered by Dr. Goldschmidt, working at them on the spot with the aid of all necessary appliances; and I shall look forward with eager interest to the result of his labours.

I now pass to the architectural photographs. Striking as many of them are—in particular, the rampant lion in bas-relief is a noble specimen of Hindu art—they yet leave the mind unsatisfied, because they convey no clear idea of the true form of the architectural fragments represented, and of their relation towards each other and towards the building of which they form a part. This is a well-known defect of photography as applied to architectural groups, for by presenting all the objects in the picture in the same plane it gives the eye no opportunity of judging distances and relative positions. Hence the necessity of supplementing photographs by plans, when large or straggling buildings are concerned, and a plan of the Ruwanweli Dagoba is required to complete our knowledge of that wonderful ruin. In a former letter I strongly urged the execution, by the detachment of Royal Engineers stationed in Ceylon, of a general survey of the city of Anuradhapura and of the road from Anuradhapura to Mihintale. I now beg to renew my recommendation, and to say that I consider the survey second only in importance to the publication of a Corpus of Ceylon inscriptions.

I have, &c.,

ROBERT C. CHILDERS.

Enclosure No. 2 in No. 15.

The COLONIAL OFFICE to the WAR OFFICE.

Downing Street,
30th October, 1874.

No. 2, Aug. 17, 1874.

SIR,—I AM directed by the Earl of Carnarvon to transmit to you, to be laid before Mr. Secretary Hardy, a copy of a despatch from the Governor of Ceylon on the subject of the proposed collection of ancient inscriptions in Ceylon.

I am to state that His Lordship has approved the engagement of Dr. Goldschmidt for this purpose, and that it has been suggested that the services of a soldier of the Royal Engineers, who should be employed as photographer under Dr. Goldschmidt, might be temporarily placed at the disposal of the Ceylon Government.

Lord Carnarvon understands that precedents for such a course are to be found in connection with the Sinai Peninsula Expedition and the Palestine Survey, and His Lordship would be glad to know whether Mr. Hardy is prepared to entertain this proposal favourably; and, if so, whether he would cause the name of a competent photographer of undoubted character to be submitted to him, and what remuneration he would suggest should be allowed him by the Ceylon Government.

I am, &c.,

J. PAUNCEFOTE.

Enclosure No. 3 in No. 15.

WAR OFFICE to the COLONIAL OFFICE.

082
497

War Office,
12th November, 1874.

SIR,—I AM directed by the Secretary of State for War to acknowledge the receipt of your letter of the 30th ultimo, and to acquaint you in reply for the information of the Earl of Carnarvon, that there is no man at the School of Military Engineering suitable for employment as photographer under Dr. Goldschmidt in the reproduction of the ancient inscriptions in Ceylon. Second Corporal Sharp, Royal Engineers, now one of the New Zealand detachment for observing the transit of Venus, can be recommended for this duty, and would be available in March, when he could proceed direct from that station to Ceylon. The rate of pay suggested is that paid to him in New Zealand, viz., 4s. a day and free rations.

If this arrangement is considered satisfactory, instructions will be sent for the man to proceed to Ceylon by the first ship which leaves New Zealand for that place after his services are dispensed with.

I am, &c.,

J. C. VIVIAN.

Enclosure No. 4 in No. 15.

The COLONIAL OFFICE to Dr. GOLDSCHMIDT.

Downing Street,
19th November, 1874.

W. O., 12th Nov. 1874.

SIR,—WITH reference to the proposal that the Secretary of State for War should select a soldier of the Royal Engineers to accompany you to Ceylon in order to take photographs

LITERARY AND SCIENTIFIC WORK.

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No. 15.

under your direction, I am desired by the Earl of Carnarvon to enclose for your consideration a copy of a letter which has been received from the War Office on the subject.

I am to state that His Lordship will be glad to receive an early intimation of your opinion, whether the offer of the services of Corporal Sharp should be accepted or not.

I am, &c.,

J. PAUNCEFOTE.

Enclosure No. 5 in No. 15.

DR. GOLDSCHMIDT to the COLONIAL OFFICE.

46, Stockwell Park Road, S.W.,
20th November, 1874.

MY LORD,—IN reply to Your Lordship's letter of the 19th instant, I beg leave to state that, in my opinion, the best and safest arrangement would be to secure the services of Corporal Sharp recommended by the War Office.

Since, however, his services cannot be obtained before March, and being myself anxious to proceed to Ceylon not later than by the last Mail in December, before the hot season sets in, I take the liberty of asking Your Lordship from what date I may consider my appointment to take effect.

I also beg leave to submit to Your Lordship that I might be allowed to travel at my own expense viâ Germany and Brindisi, and on my arrival at Ceylon recover the usual allowance for the passage by steamer from Southampton.

I remain, &c.,

PAUL GOLDSCHMIDT.

Enclosure No. 6 in No. 15.

COLONIAL OFFICE to the WAR OFFICE.

Downing Street,
25th November, 1874.

SIR,—IN reply to your letter 082 497 of the 12th November I am directed by the Earl of Carnarvon to inform you that he accepts the services of 2nd Corporal Sharp, of the Royal Engineers, on behalf of the Government of Ceylon, on the terms laid down in your letter, and I am to request that he may be desired to proceed from New Zealand to Ceylon by the first ship after his employment in the former Colony has come to an end.

I have, &c.,

R. H. MEADE.

Enclosure No. 7 in No. 15.

The COLONIAL OFFICE to DR. GOLDSCHMIDT.

Downing Street,
25th November, 1874.

SIR,—IN answer to your letter of the 20th instant I am directed by the Earl of Carnarvon to inform you that he has accepted the offer made by the Secretary of State for War of the services of Corporal Sharp.

I am further to inform you that your appointment, and the half pay of it, will commence from the day of the departure from Southampton of the mail by which you may arrive in Ceylon.

His Lordship consents to your proposal to travel viâ Germany and Brindisi, receiving on your arrival in Ceylon the usual allowance for the passage by steamer from Southampton.

I have, &c.,

R. H. MEADE.

No. 16.

No. 16.

Governor the Right Hon'ble W. H. GREGORY to the Earl of CARNARVON.

No. 7.
Miscellaneous.

Queen's House, Colombo,
Ceylon, January 7th, 1875.

MY LORD,—I HAVE the honor to acknowledge the receipt of Your Lordship's despatches No. 187 of the 3rd November and No. 209 of the 25th November.

2. I entirely concur in the arrangements which Your Lordship has made with Dr. Goldschmidt.

3. I do not see that any stipulation has been made with Dr. Goldschmidt as to the time that his engagement is to last, or that power should be given to either of the contracting parties to conclude the engagement at the end of the first or second year, recommended by me.

4. The arrangement made to secure the services of Corporal Sharp is most satisfactory, far more so than engaging a professional photographer on salary.

5. I think it would be advisable to have two dozen copies of the photographs taken by Captain Hogg printed, half a dozen to be sent here to be on record and as an assistance to Dr. Goldschmidt. Copies might be sent to the India Library, the Asiatic Society, Messrs. Max Müller and Jas: Fergusson, and Captain Hogg may wish to have a few copies for himself. I requested Captain Hogg to take instructions at the Colonial Office as to where the negatives should be deposited. I have no doubt he will gladly make arrangements for and supervise the printing of them.

I have, &c.,

W. H. GREGORY.

No. 17.

No. 17.

The Earl of CARNARVON to Governor the Right Hon'ble W. H. GREGORY.

(Ceylon.)
No. 41.

Downing Street,
14th February, 1875.

SIR,—WITH reference to your despatch No. 7 of the 7th of January, respecting the conditions on which Dr. Goldschmidt has accepted the temporary appointment offered him by your Government, I have to point out to you that the terms proposed by your Government were communicated to Mr. Childers on the 25th of September last, and that in his letter of the 12th October last, Mr. Childers accepted those terms on behalf of Dr. Goldschmidt. Copies of those papers were transmitted to you.

As regards the photographs, an extract of your despatch will be sent to Mr. Childers.

I have, &c.,

CARNARVON.

No. 18.

No. 18.

Governor the Right Hon'ble W. H. GREGORY to the EARL of CARNARVON.

No. 96.
Miscellaneous.

Nuwara Eliya,
10th April, 1875.

MY LORD,—I sent you a telegram on the 29th ultimo, to the effect—"As Goldschmidt is here, Hogg's services not required. Will write."

2. Some time since, when there appeared to be no likelihood of the services of any person acquainted with Oriental languages being obtained to reproduce the inscriptions in Ceylon, I recommended that Captain Hogg should be engaged to complete the work he had begun.

3. Having engaged Dr. Goldschmidt, I have not thought it expedient to press for Captain Hogg's return. The ruined cities have been already carefully photographed, and I see no reason for incurring the expense of additional photographs. An accurate survey of Anurádhapura and the ancient structures has also been completed.

As regards a descriptive account of the ancient cities, should it be necessary to have one hereafter to accompany the inscriptions, there are Civil Servants acquainted with the ancient records.

I have, &c.,

W. H. GREGORY.

P. S.—As yet no information has reached the Government as to when the arrival of Corporal Sharp may be expected. Dr. Goldschmidt's work would be much advanced by the aid of the photographer.

No. 19.

No. 19.

The Earl of CARNARVON to Governor the Right Hon'ble W. H. GREGORY.

Ceylon.
No. 125.

Downing Street,
29th May, 1875.

C. O. to W. O. Jan. 15, 1875.
C. O. to W. O. Feb. 12, 1875.
W. O. to C. O. March 11, 1875.
C. O. to W. O. April 2, 1875.

SIR,—WITH reference to your despatch No. 96 of the 10th of April last, I have the honor to transmit to you for your information copies of the correspondence that passed between the War Office and this Department respecting the employment of Captain Hogg to assist in Dr. Goldschmidt's archæological enquiry.

I have, &c.,

CARNARVON.

Enclosure No. 1 in No. 19.

The COLONIAL OFFICE to the WAR OFFICE.

Downing Street,
15th January, 1875.

SIR,—I AM directed by the Earl of Carnarvon to state that His Lordship is anxious to secure the further services of Captain Hogg, R.E., who has already been employed in the Colony for special employment in conducting some very important antiquarian researches in Ceylon under the Colonial Government for a period of about eighteen months, the Colony undertaking to pay the cost of his passages out and home, and to discharge the amount of his pay and allowances.

2. Lord Carnarvon attaches much importance to the selection of Captain Hogg for this special work, for which his past experience renders him peculiarly fit, but he learns that Captain Hogg sailed this morning for St. Helena on service, on board the Union Company's S. S. "Nyanza," which will call at Plymouth in the course of to-morrow morning. Lord Carnarvon would feel much obliged if Mr. Hardy would assent to Captain's Hogg's services being placed at the disposal of the Colonial Government, and would, in that event, issue instructions to ensure that Captain Hogg shall to-morrow receive by telegram the necessary authorization to disembark at Plymouth.

I am, &c.,
R. H. MEADE.

Enclosure No. 2 in No. 19.

The COLONIAL OFFICE to the WAR OFFICE.

Downing Street,
12th February, 1875.

SIR,—I AM directed by the Earl of Carnarvon to request you to call the attention of Mr. Secretary Hardy to my letter dated the 15th of January last, respecting the employment of Captain Hogg, R.E., in Ceylon under the Colonial Government, and I am to add that His Lordship remains of the opinion, that having regard to the importance of the work to be performed by Captain Hogg, which indeed has already been commenced by him, and the impossibility of finding any properly qualified substitute, it is extremely desirable that he should be allowed to accept the employment thus temporarily offered to him by the Government of Ceylon.

2.—Lord Carnarvon trusts that the difficulties which appear to attend the proposed employment of Captain Hogg may be overcome, and he requests that this communication may be brought under the special attention of His Royal Highness the Field Marshal Commanding in Chief and that of Mr. Secretary Hardy.

I am, &c.,
R. H. MEADE.

Enclosure No. 3 in No. 19.

The WAR OFFICE to the COLONIAL OFFICE.

67514/7

War Office,
11th March, 1875.

SIR,—I AM directed by the Secretary of State for War to acknowledge the receipt of Mr. Meade's letter of 12th ultimo, requesting that Captain Hogg, Royal Engineers, might be allowed to accept temporary employment under the Government of Ceylon.

2.—Mr. Hardy thinks it will be convenient shortly to recapitulate the circumstances under which this officer was withdrawn from Ceylon and sent to St. Helena.

3.—Captain Hogg had been serving at Ceylon for two years and nine months from 1871 to 1874, when it was decided that the establishment of Royal Engineer officers there might be reduced by one. He had then two years and three months of unexpired foreign service, and a relief was required at St. Helena, to which station he was accordingly ordered on 19th March, 1874.

4.—The Government of the Colony had about that time arranged, without communication with this office, that Captain Hogg should be granted three months leave for the purpose of taking photographs of the rock inscriptions of Ceylon, and the Governor, (then in England) was informed by telegraph of the receipt of the order for Captain Hogg's departure.

5.—He thereupon on 29th May requested that Captain Hogg might be detained "for some three or four months longer in Ceylon," and, under the special circumstances, this

was approved of, and he was accordingly so detained for nearly five months, viz., till the 20th October.

6.—In the meantime the Company at St. Helena, which he had been detailed to command, was without a Captain.

7.—He arrived in England on 1st December, and was ordered to proceed to St. Helena by the mail steamer of 15th December. On 8th December he sent an application, accompanied by a medical certificate, requesting that his embarkation might be postponed, as he had been "obliged to undergo surgical treatment for a complaint brought on by three years' service in the hottest station in Ceylon."

8.—Leave was, therefore, granted to him till the sailing of the next mail steamer on the 15th January, in which he embarked.

9.—On 16th January a letter was received from the Colonial Office, in which Lord Carnarvon requested that Captain Hogg might be detained, whereupon a telegram was sent to Plymouth ordering his disembarkation there, but the steamer had left Plymouth before the telegram was received.

10.—It was then suggested that he might be stopped at Madeira, but it was decided that he should proceed undisturbed to St. Helena, where he is now serving in command of a company, and, in the absence of his Commanding Officer, who has been granted six months' leave, acting as Commanding Royal Engineer, from which duties he cannot be moved until regularly relieved, which could not take place within a less period than three months.

11.—Under these circumstances, and as the expense of the passage of his successor to St. Helena would have to be added to his own to Ceylon, the whole of which would be a charge against the Colony, Mr. Hardy thinks it possible that Lord Carnarvon might prefer that an officer qualified to carry out the work which Captain Hogg has commenced should be sent out from this country to Ceylon; and on hearing that His Lordship concurs in this proposal he will cause an officer to be selected for the duty.

12.—I am to add, that if a company of Royal Engineers should be required hurriedly for active service at Natal, the company now serving at St. Helena would be the one for the duty, and that this renders it still more undesirable that there should be a withdrawal of the Captain at the present moment.

I have, &c.,

J. C. VIVIAN.

Enclosure No. 4 in No. 19.

The COLONIAL OFFICE to the WAR OFFICE.

Downing Street,
2nd April, 1875.

SIR,—I AM directed by the Earl of Carnarvon to acknowledge the receipt of your letter No. 67,514 of the 17th ultimo, recapitulating the circumstances connected with the withdrawal of Captain Hogg, R.E., from Ceylon, and suggesting that another officer qualified to carry out the photographic work which Captain Hogg has commenced should be sent out from this country to Ceylon.

In reply, I am to request that you will inform Mr. Secretary Hardy that after considering your letter Lord Carnarvon will not now further press his desire to obtain the further services of Captain Hogg, for which he would not have asked unless he had conceived it to be specially important that the work should be continued by the person who had commenced it. At the present time, the Colony appears, from a telegram recently received, to be able to make some arrangement which may prove adequate; but His Lordship will bear in mind the offer of the services of a Royal Engineer officer for this duty, should it ultimately be found necessary to apply for such assistance.

I have, &c.,

R. H. MEADE.

No. 20.

Governor the Right Hon'ble Sir W. H. GREGORY, K.C.M.G., to the Earl of CARNARVON.

No. 331.
Miscellaneous.

Queen's House, Colombo,
October 26th, 1876.

MY LORD,—I HAVE the honor herewith to forward a copy of a catalogue of Pali, Siphalese, and Sânskrit manuscripts now in the library of the Museum at Colombo.

The work of investigating the libraries belonging to the temples was begun by my predecessor, and has been actively continued by me with the agency of a very learned native, Mr. De Zoysa, Mudaliyar.

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PAPERS.

No. 20.

The temple libraries, with a few exceptions, have now been explored, and some interesting and early manuscripts have been procured and copied. It is most unfortunate that that investigation was not conducted at an early period of the British rule, when the Buddhist monasteries were presided over by men of learning, or at all events by men who highly valued their literary stores. Since we occupied the Kandyan country—and more especially of late, since we dissociated ourselves altogether from Buddhism, and, in my opinion, very improperly allowed temple property to become the prey of every spoliator—the old class of learned priests has generally disappeared, and has been replaced in too many instances by men whose only object is to enrich themselves as fast as they can, leaving the temple and all belonging to it to go to rack and ruin. From this cause thousands of valuable manuscripts are supposed to have perished, either by the devastations of white ants or by the climate. It is therefore fortunate that we have secured even the small remnant which we now possess.

I have sent copies of this interesting catalogue to the British Museum, Bodleian, and other libraries, and, if Your Lordship wishes to forward any abroad, I can remit other copies to you.

I may mention that I can get copies of these manuscripts made for a small payment to the copyist.

I have, &c.,
W. H. GREGORY.

No. 21.

No. 21.

Governor the Right Hon'ble Sir W. H. GREGORY, K.C.M.G., to the Earl of CARNARVON.

No. 39.
Miscellaneous.

Queen's House,
Colombo, 7th May, 1877.

MY LORD,—IT is with the deepest regret that I have to announce to you the death of Dr. Goldschmidt. He died of fever at Galle this morning.

To the literary world his loss will be very great. He was a profound Oriental scholar, and he had devoted himself to a branch of Oriental literature hitherto but little cultivated—the Sinhalese and cognate dialects. It was his intention, had he lived, to have thoroughly worked out the Veddah and Maldive languages and the Rodiya dialect.

When he first came here his health was so strong, and the climate suited him so well, that he felt satisfied he could do out-door work by day well as in Europe. I constantly remonstrated with him on his extraordinary imprudence; a severe attack of fever last year shewed him that he had no immunity from the diseases of the country, if he rashly courted them; and since then he has had other attacks, which, however, he seems to have disregarded.

Two days ago I wrote to him privately, and also officially, requesting him to send in all the work he had completed to the Colonial Secretary's Office. He was very averse to this, solely on the ground of not being perfectly satisfied with the accuracy of his investigations. He expected next year to prepare the volume of Ceylon Inscriptions for publication. This must now be done by other hands, if a competent man can be selected.

The Lieutenant-Governor will see in what state Dr. Goldschmidt's papers are, and will communicate with Your Lordship on the subject. I hope also when in London that I may have an opportunity of conferring with Your Lordship as to the best mode of completing this very interesting work of compiling a complete record of the inscriptions of Ceylon.

There seems to be a sad fatality connected with Oriental scholars: within a few years we have had to deplore the deaths of Emanuel Drutsch, Mr. Smith, the Antiquarian, and now that of Dr. Goldschmidt, who in his own line was not inferior to the others.

I have, &c.,
W. H. GREGORY.

No. 22.

No. 22.

The EARL of CARNARVON to Lieutenant-Governor the Hon'ble ARTHUR N. BIRCH, C.M.G.

Ceylon.
No. 174.

Downing Street,
20th July, 1877.

SIR,—IT is with the deepest regret that I have learnt from Sir William Gregory's despatch, No. 39 of the 7th of May, the death of Dr. Goldschmidt. I shall communicate

with you further as to filling up the vacant place, though I anticipate much difficulty in finding a successor equal in merit to Dr. Goldschmidt.

In the meantime I have to request that you will take measures for transmitting to me Dr. Goldschmidt's papers for communication to Dr. Rost. I annex for your in formation a copy of a letter received from Sir William Gregory relative to this subject.

I have, &c.,

CARNARVON.

Enclosure in No. 22.

The Right Hon'ble Sir W. H. GREGORY, K.C.M.G., to the COLONIAL OFFICE.

Westminster Palace Hotel,
July 10, 1877.

SIR,—I HAVE been unable to reply to your letter of the 22nd ultimo until I had seen Dr. Rost, and consulted with him as to the best course to be pursued to carry out the work of copying and translating the inscriptions of Ceylon, so unfortunately interrupted by the death of Dr. Goldschmidt.

I received the news of Dr. Goldschmidt's death just before leaving Colombo; and as I was about to embark directly I requested Mr. Birch to have Dr. Goldschmidt's papers carefully examined; that all which were of a private nature should be forwarded to his friends, and that those which had reference to his work should be looked over and arranged by Mr. Lee, the District Judge of Kalutara, who has some acquaintance with Pali.

The course which I recommend Lord Carnarvon to pursue will be to instruct Mr. Birch to forward these papers to Dr. Rost, who has kindly promised to look them over and put them into shape. I much fear they are very incomplete. Dr. Goldschmidt had the strongest repugnance to commit himself to the accuracy of any transcription or translation until he had thoroughly satisfied himself as to their correctness. Much of his work in consequence remains unfinished. He felt himself, as he constantly informed me, getting almost daily stronger as regards his conclusions, and, as he distrusted some of his early work, it was his intention to have gone over it again for final revision.

Knowing this to be his intention it was only a few days before his death that I wrote to him, begging him to refrain for some time from out-door work, and to come up to Colombo to complete and hand in to the Government all inscriptions with the accuracy of which he was satisfied.

Dr. Goldschmidt had finished his investigations in the Southern Province, and had carefully examined and copied a large number in the North-Central. The earliest inscriptions, and consequently the most valuable to philologists are, as I am informed, in these provinces. In the North-Western Province the inscriptions are comparatively early and are likely to be interesting, but in the Central and Western Provinces they are of a more recent date, and will be more easy of access and of transcription and translation. There is scarcely anything to be done in the Northern and Eastern Provinces, so far as we know at present; so it appears that all that is to be done may be thoroughly completed within three years.

Dr. Rost informs me that he has written to Dr. Weber of Berlin on the subject of procuring a competent person to complete the work, and that Dr. Weber highly recommends two young Sanskrit and Pali scholars, both of whom know English thoroughly. I am to call on Dr. Rost to-morrow and to give him all particulars as to the work which remains to be done, the materials already collected, salary, allowances, &c., &c. I shall endeavour at the same time to learn whatever I can as to the personal qualifications of the candidates; and if he is satisfied with Dr. Rost's recommendation, I think the best course will be for Lord Carnarvon to select one of them, and to send him out to Ceylon in November, which is the earliest date at which those gentlemen can leave Germany.

I have no hesitation in stating that I believe there is no Englishman competent for the work.

The untimely death of Dr. Goldschmidt has been a great blow to me, partly from the personal regard I had for him and from my admiration of his great learning and ability, and also because I thought that we were about to produce a work which would be received with favour by Oriental students, and be a credit to Ceylon.

I trust, however, that as so much has been done, Lord Carnarvon will not permit an undertaking, which has aroused such interest at home and caused such gratification to the educated natives of Ceylon, to drift away and be abandoned.

As I am about to leave London, I shall request Dr. Rost to communicate with you.

I remain, &c.,

W. H. GREGORY.

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PAPERS.

No. 23.

No. 23.

The Earl of CARNARVON to Governor Sir J. R. LONGDEN, K.C.M.G.

Ceylon.
No. 225.

Downing Street
28th August, 1877.

SIR,—I HAVE the honor to transmit to you for your consideration a copy of a report, which has been furnished by Sir W. Gregory, on the literary and scientific works undertaken during the term of his Government in Ceylon, and also a copy of the reply which has been addressed to him by my directions.

2. I have to call your particular attention to the recommendations, of which Sir W. Gregory has given a recapitulation at the conclusion of his letter. There can, I think, be no doubt as to the desirability of carrying out such suggestions, subject of course to the necessary financial considerations. You and your Council will probably concur with me in thinking that money laid out on the preservation of works of art and other relics of antiquity is well and beneficially spent, provided that other branches of the Government do not suffer by undue expenditure in this department of work.

3. Of the recommendations made in this report, it appears to me that those recommendations numbered respectively 1, 2, 5, and 6 might be carried into effect without delay and without involving any serious expense.

4. The question of addition to the Museum and a Geological survey of the Island should be submitted to the consideration of Your Council, and some estimate should be formed of the probable cost which they would entail.

I have, &c.,
CARNARVON.

Enclosure No. 1 in No. 23.

Sir W. H. GREGORY, K.C.M.G., to the Earl of CARNARVON.

Coole Park,
Gort, Ireland, August 1st, 1877.

MY LORD,—It was my intention, but for severe illness, before leaving Ceylon to have written fully to Your Lordship on the subject of the literary and scientific work undertaken during the five years of my Government of that Colony.

2. Since the introduction of Buddhism into Ceylon there has always been a certain number of learned natives engaged in the study of Páli, the language in which their sacred and historical books were written. Although I have never directed my attention to Oriental literature, I considered it my duty to encourage, as far as it was in my power, the efforts of those natives who were endeavouring to revive the cultivation of learning in Ceylon. The study of Páli, moreover, has of late become highly popular in Europe. As a proof of this growing interest, I may mention that Professor Fausböll of Copenhagen, the well-known European Páli scholar, has within the last twelve months sold more copies of his work than during the previous ten years.

The Mahawanso.

3. Incomparably the most interesting book connected with Ceylon is the Mahawanso, a history in metrical lines of the Island from its earliest civilization before the Christian era. It commences from the first known king, 540 B.C., and the first section, which was composed about 450 A.D., brings the history as far as 301 A.D. The second portion was written by order of the great king Prakrama Bahu, about 1266 A.D., and the narrative was carried on under various sovereigns down to the year 1758. A portion of the work has been edited and translated by Turnour so far as the year 477 A.D. It was a matter of great importance to every student of Sinhalese history and tradition that the whole of a work so full of curious information should be revised and translated; therefore, I confided the rectification of the text, together with the readings of various MSS., and also a translation into Sinhalese, to two very eminent Páli scholars: Sumangala, the High Priest of Adam's Peak, and the Pandit Batuwantudawe. Their task has been accomplished, and the translation into English has been entrusted to the Mudaliyar De Zoysa, who is to complete it in three years, and who is perfectly competent for the work, as he is not only an excellent Páli scholar, but also a perfect master of English.

5. To the first part of the Mahawanso there is attached a most valuable commentary called the Tika. This has been left untouched by Turnour, and as it is urgently required for the elucidation of the text, I made an arrangement that it should be translated into Sinhalese by the same persons, and I presume that the English translation will also be confided to the Mudaliyar De Zoysa. Had I remained longer in Ceylon, I should have had the first part, which has been dealt with by Turnour, revised, the variants added to the text, and the whole translated into Sinhalese.

6. There is another very early historical work called the Dipawanso, and as the copy which we possess is so corrupt as to be useless, I endeavoured, but failed, to obtain from Siam a correct edition. I was however informed by Dr. Goldschmidt that a revised text

of this work has recently appeared in Europe, and I am endeavouring to obtain it for the Museum library.

Temple Libraries.

7. The investigation of the Temple libraries was begun by my predecessor, Sir Hercules Robinson, and the Hon'ble Mr. Alwis, the Sinhalese Member of the Legislative Council, undertook the examination of them. No one was more competent for the task than this gentleman on the score of learning and ability, but his professional engagements prevented him from carrying it out as quickly as I wished. Each year has, I fear, witnessed the destruction and loss of valuable MSS., and it is a misfortune to Oriental students that this investigation was not instituted 50 years ago, when the libraries were in far better preservation. Not to lose further time, I placed the work in the hands of De Zoysa Mudaliyar, who had, except in the case of certain libraries in the North-Western and North-Central Provinces, all but completed it when I left. He has been able in some cases to obtain valuable MSS., and in many places he has discovered works of great interest, all of which have been or are being copied. A catalogue of the Páli MSS. in the Colombo Museum has been published and sent to the Colonial Office and also to several public libraries in the United Kingdom. It shews that a considerable collection has been made.

8. I think it very advisable that Your Lordship should recommend this research to be vigorously pursued by De Zoysa Mudaliyar in January next, when the weather will be favourable for travelling. It is highly expedient to complete the examination of some libraries in the South which have not been thoroughly searched, and also to have the very little known libraries in the provinces to which I have referred looked over, as probably works of an early date may be found in them. This should be done without loss of time, as if anything were to happen to De Zoysa Mudaliyar we should be involved in the same difficulties we have to encounter owing to the untimely death of Dr. Goldschmidt. The Mudaliyar's final report should be printed and forwarded to Indian and European libraries, where it will excite much interest.

Rock Inscriptions.

9. It is needless for me, in consequence of former communications on this subject, to enter at any length upon it. I may mention, however, that a work of Dr. Bühler has recently been sent to me by Dr. Rost, in which much stress is laid on the important results to Indian history which the discoveries of Dr. Goldschmidt are expected to bring to light. Although his death has interrupted this work, I am in hopes that his previous reports and papers, which Dr. Rost has kindly promised to examine and arrange, will be of much assistance to any Páli scholar whom Your Lordship may select to succeed him. If I recollect aright, I mentioned in my despatch of May 8th, when announcing his death, that not only have we lost the benefit of his great learning in the collection and deciphering of these inscriptions, but that he had set his heart on thoroughly investigating the language of the aboriginal race, the Veddahs, also the language of the Maldive Islands, which is said to be Arábaic Sinhalese, and also the dialect of the Rodiyas, an outcast class, about which dialect, from the horror with which they are regarded, little is known.

10. While on this subject, it is satisfactory to be able to inform Your Lordship that I have procured, arranged, and had translated into English, through the help of Dr. Goldschmidt, a series of inscriptions on stone slabs from a period of 200 A.D., up to the 13th century, some of which are interesting in their subject matter, and all of them of importance to the philologist, as exemplifying the changes in the letters from the early square formation up to the present round type, and also the changes in the grammatical structure of the language. They are now arranged in chronological order in the Museum.

Colombo Museum.

11. Although this institution was only opened in January last, it already possesses many objects of interest to antiquarians. I have had sculptures sent in from various ruined cities; among them is a very fine stone lion weighing about eight tons from the city of Pollónaruwa; upon it there is an inscription to the effect that King Nisanka Mala (about A.D. 1180) sat on this lion and administered justice. The constant destruction of sculptural works of art and of inscriptions by Indian coolies, who are under the impression that they contain or are placed over treasure, and the careless manner with which they have been at times treated by officers of the Public Works Department, render it advisable that all sculptures of value should be at once brought to Colombo, where they will be carefully preserved. But the present space of the Museum will not suffice for the various objects, some of them large, which are likely to be received; and I left with our very accomplished and able architect, Mr. Smither, my views as to the erection of an additional building to be attached to it, in which there will be ample space to exhibit all the antiquities which we possess at present, as well as all accessions which we are likely to obtain. I am indebted to Sir Joseph Hooker for the idea of a structure which will be of moderate cost, elegant in appearance, and well adapted for the exhibition of sculpture. It is to be a roofed oblong building on the same principle as, but of course of much less area and height, than the Campo Santo of Pisa, with a cloister running round it. To the outside wall of this cloister the inscriptions should be attached in chronological order, and smaller objects can also be

LITERARY AND SCIENTIFIC WORKS.

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exhibited on stands and brackets. In the centre should be placed the larger objects, such as the Pollonaruwa lion. Though the objects exhibited in this building will not have the attractions of the Indo-Greek remains now being collected by General Cunningham in India, still they have an interest as representing Buddhist art, and some of the early stone carvings are original and graceful.

12. There is a fair exhibition of Sinhalese products already, and I trust that in a few years the zoology of the Island will be well represented.

13. The library has attained considerable size, partly from the incorporation of the books of the Asiatic Society and from purchases by the Government of works illustrating natural history and Oriental literature, as well as from contributions by various private persons, among which I may specially refer to a portion of the library of the late Mr. Lorenz, most liberally presented by his brother, containing a most valuable collection of works in several languages which refer to Ceylon.

14. I may here mention that, in my opinion, a careful geological and mineralogical survey of the Island would be desirable. Many years ago a report on the mineralogy of Ceylon was drawn up by Dr. Gigax, who was employed by the Government, and a collection was made by him, which is unfortunately scattered, and the specimens which remain are deprived of their value from the loss of their labels. This is a work which would not involve much time or expenditure, as the Island is almost entirely of gneiss formation. It is however remarkably rich in gems of various kinds, and some of the clays are supposed to be suitable for the manufacture of porcelain. If a geologist be employed, he should make a complete collection of the rocks, minerals, crystals, and clays, and arrange them in the Museum.

15. The dimensions of the Museum forbid the acquisition of collections other than of objects connected with Ceylon, and in this limitation I have had the full concurrence of some of the most scientific men in England who have devoted their attention to the structural requirements and purport of museums. In some few cases I have relaxed the rule, and have admitted objects from foreign countries illustrative of some of our special products, as, for instance, specimens of the coffee bean, of pearl oysters and of gems, but in all other respects the principle is strictly maintained that the exhibition is to be confined to the works of Nature and of man in connection with Ceylon.

Discovery of and preservation of Ancient Monuments.

16. A good deal has been done in this direction, but much more should be attempted. The city of Anuradhapura has, from its antiquity and former greatness, attracted attention, but I have little doubt that many discoveries of great interest will yet be made in the jungle which surrounds it, and by excavations and clearing the accumulations of rubbish round the buildings. It is not more than a few years since this station was pestilential at times, and was abandoned for about three months in the year. So bad was its reputation, that it had not been visited by any Governor from the time of Sir Henry Ward up to 1872, when I rode there. Sir Hercules Robinson, however, was convinced that its insanitary condition proceeded from its being entirely choked up with almost impervious jungle, which precluded all free passages of air, and he very liberally and wisely applied a sum of money annually for the clearing of the vegetation round the station and the principal monuments. This undertaking was still further carried out by me, and at present the station has the appearance of a fine spacious park studded with clumps and single trees, and a vote has been taken for the construction of a road about six miles in length, which is by this time probably finished, and which enables visitors to drive to all the monuments of note known at present.

17. Some years ago, photographs were taken by order of Sir Hercules Robinson of the principal structures in Anuradhapura. They fill two large volumes, and reflect much credit on Mr. Lawton, the photographer, and on Mr. Smither, the architect under whose instructions they were taken. There is a concise and useful comment on each of the plates by Mr. Liesching, who was then Assistant Agent at the station.

18. In 1873 a complete survey of all that is known of the ancient city was made by my directions, traverses were run out to all spots where ruins exist. Every object of interest has been carefully shewn on the map of Mr. Capper, the surveyor, and all heights and measurements of the dagobas were determined.

19. Mr. Fergusson, however, the eminent architect, considered this survey to be incomplete, and that detailed plans and sections with architectural measurements and drawings should be furnished, without which it would be impossible to form a correct idea of the early monuments. My inability to carry out these recommendations, owing to the absence and illness of Mr. Smither, the only person to whom I could with confidence entrust this work, gave rise to somewhat unfavourable comment in Mr. Fergusson's recently published volume on Eastern Architecture. I am glad, however, to mention that this reproach is now taken away, and that Mr. Smither has by this time carried out Mr. Fergusson's suggestions so far as regards Anuradhapura. His plans and drawings are to be lithographed by the Surveyor-General, and copies will be sent to the Colonial Office, to Mr. Fergusson, the British Museum, and to other institutions. Such were the instructions I left behind me, and I presume they will not be neglected. I forward herewith a very interesting extract from Mr. Smither, who wrote from Anuradhapura while engaged

May 5, 1877.

in this work. He strongly recommends that all the ancient monuments of any importance should be examined, planned, and in some cases photographed, as has been done, and is now doing at Anuradhapura. The remains of Pollonaruwa, which became the royal city in the eighth century, are full of interest; and when we remember the magnificent work which was published by the Dutch on the antiquities of Java, it seems to me that it would be somewhat discreditable were the antiquities of Ceylon to remain without the thorough illustration which they merit. The increasing interest taken by so many educated natives in every act of the Government which tends to revive the literature and to elucidate the early history of this country, is a consideration which should not be overlooked, and I am confident that any moderate expenditure in this direction will meet with the cordial support of their representatives in the Legislative Council.

20. Much as has been done by the Government in clearing the jungle, exposing the ruins, and rendering Anuradhapura a healthy station, which it now is, by far the most important archæological discoveries have been made by a young Buddhist priest, who with the view of "gaining merit" has devoted himself to the clearing and restoration of the Ruwanweli, which before 1873 was a huge shapeless mass of bricks. These bricks, which had fallen from the top chiefly through the action of roots of trees which till recently overgrew it, had so completely covered the basement that there was no indication of the very beautiful architectural work which has now been revealed. The whole of the base was cased with square slabs of brilliant quartz limestone, which even now, although discoloured, glitters in the sun. It was surrounded by tiers of galleries or procession paths ornamented with elephants' heads of the same material, and at each of the points of the compass is a projection commonly called a chapel, but which Mr. Smither rightly considers to be "a screen to the steps leading upwards to the procession paths round the dagoba." These screens are of the most elaborate carving, and some of the designs have a strong resemblance to the Greek. The ornamentation of elephants' heads on these projections is very curious, one-half of the trunks of the elephant turn to the left and the other half to the right.

The priest to whom I have referred undertook the apparently hopeless task of clearing and restoring this great structure. He began without any funds; he is not even a native of Anuradhapura; but such was his energy and confidence of success, that his countrymen by degrees began to contribute, and I was able to strengthen his position by a private contribution at each of my visits, and by a testimonial in favour of his praiseworthy efforts. He has now succeeded in completely restoring, or rather I should say in replacing, the whole of the base, and is proceeding to the reasing of the upper part of the building. It is almost incredible the amount of work he has done in so short a time and with such slender means. In the course of clearing many interesting objects came into his hands—rings, ornaments, coins—all of which he has handed over to the Government, and they are now in the Museum. Several important inscriptions have been laid bare, which, from having been so long covered and protected thereby from the weather, are in good condition; but much the most interesting discovery is that of four statues, among them that of the King Bhatiya Tissa, who reigned 20. B.C.* These statues, although broken either by the fall of the bricks or by the hands of invaders, are complete in their parts, and have just been restored to their original position by Mr. Smither.

22. The result of the clearing of this dagoba has been so valuable that I had fully intended to have taken in hand and cleared one of the other two large dagobas, which are in a similar state of dilapidation, and I have no doubt, if they are undertaken, and the workmen paid at once for all valuable objects discovered by them, that many accessions will be procured for the Antiquarian Department of the Museum.

23. I have used the word dagoba on several occasions in this despatch, and I should mention that it is a building erected generally over some relic of Buddha. The dagoba to which I have referred is about 180 feet high, and was, if I remember rightly, constructed about 160 B.C. I shall endeavour to have some photographs taken from drawings in my possession, which illustrate the references to the chapels and the ornaments of the base, and I will forward them to Your Lordship.

Páli College.

24. It gratifies me to be able to state that the encouragement given by the Government to the study of ancient literature and to the investigation of the monuments has already borne fruit, and a College for the teaching of Páli and Sanskrit has been established by the Buddhist High Priest Sumangala with considerable success. It was only this year formally opened; it is free to persons of all denominations, and there are already seventy students, ecclesiastics and laymen, attending the lectures. An annual vote, so long as it is satisfactorily conducted, of 600 rupees has been proposed to and agreed to by the Legislative Council in aid of this institution. In Kandy a Páli Library has been established by the Kandyan priests and chiefs, and they have supported it by liberal donations of money and MSS. It is worthy of note that these two institutions have been undertaken by natives, and are being managed by them.

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* This statue has been for some time uncovered, but its original position is now determined.

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PAPERS.

No. 23.

Drawings of Lepidoptera.

25. A work of very great interest to the entomologist is being carried on by Dr. Thwaites, the Director of the Botanical Gardens, and has assumed considerable dimensions. It is a collection of drawings of all the lepidoptera of Ceylon, wherever he has been able to trace their various transformations. The leaf of the plant on which the larva feeds, the larva, the chrysalis, and the moth or butterfly, are all most accurately and elegantly drawn and coloured. Some hundreds of specimens have been thus depicted, and the work when bound will be placed in the Museum for reference, and will be of great use to students and collectors. It is to be hoped that Dr. Thwaites will be able to take up a similar work in other branches of entomology, which, though less attractive, are equally valuable. I hope to be able to shew Your Lordship the volume as soon as it is bound, as the drawings are remarkable examples of native skill.

Governors' Addresses.

26. A valuable work in connection with the history of Ceylon has been prepared and printed under my directions, namely, all the opening and closing addresses of Governors to the Legislative Council. This will be a complete epitome of the most important proceedings in the Colony since legislation has been entrusted to it. The work is in two volumes, and is finished up to the close of the last Legislative Session. I presume that by this time copies have reached the Colonial Office and various libraries both in the United Kingdom and the Colonies, though I have not yet received mine.

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27. The resumé of this despatch are the following recommendations, which, if it be communicated to Sir James Longden and approved of by Your Lordship, he may be disposed to carry out :—

1st.—That the editing of the Mahawanso may be thoroughly completed, by the translation into English of all that has been left incomplete by Turnour. That the text of the first part be revised, the variants inserted, and a translation be made of it into Sinhalese to correspond with what has been done in the case of the second part. That the Tíka, or early Commentary, be revised and translated into Sinhalese and English. There will thus be thoroughly edited a work which will be welcomed both in Europe and Ceylon.

2ndly.—That De Zoysa Mudaliyar be sent in January to complete his researches in the Temple libraries of the North-Western and North-Central Provinces, and that he should also revisit certain temples in the Southern Province in which he was unable to inspect all the manuscripts. That his final report should then be completed, embodying the results of his several investigations, and bound up with a descriptive catalogue of the manuscripts in the Museum.

3rdly.—That an addition to the Museum be built for the accommodation of the antiquities, as the room at present allotted to them is insufficient in size.

4thly.—That a Geological survey of the Island be instituted.

5thly.—That Mr. Smither should early next year continue the work in which he has been recently engaged, and that detailed drawings, measurements, and in some cases photographs, of all noteworthy monuments in the various ruined cities should be made by him.

6thly.—That the Government should at once proceed to clear away the rubbish which now encumbers and hides the base of the other dagobas at Anurádhapura, and that all trees growing on them should be removed.

I have, &c.,

W. H. GREGORY.

Enclosure No. 2 in No. 23.

EXTRACT of a Letter from Mr. J. G. SMITHER, F.R.I.B.A., to His Excellency the Right Hon'ble Sir W. H. GREGORY, K.C.M.G.

Anurádhapura, May 5, 1877.

SIR.—I HAVE only been deferring the pleasure of once more addressing Your Excellency until I could report the completion of the statues, which I am now able to do. The statue of Bhatiya Tissa has given a good deal of trouble; it was so much mutilated, especially about the feet. The foundations, too, which were about three feet deep, had given way, and the stone part behind the figure was leaning over very much, and had received a twist as well: a good solid foundation has now been laid in, the part put upright, and the statue set in its former position, standing apart from the post and looking towards the centre of the dagoba with hands uplifted in adoration. All the statues look exceedingly well, and I am sure, if Your Excellency could only see them, you would be satisfied with their appearance. The objects which we found under the most mutilated of the Buddhas were forwarded to Colombo by Mr. Dickson for Your Excellency's inspection on account of their very great interest. I have several things for the Museum which

I will bring down with me, but there is nothing amongst them at all so interesting as the above. I will, however, put a few samples together, and forward them to Mr. Haly by parcel post to-morrow in order that you may see them when you visit the Museum; when I return to Colombo I will arrange the whole of the objects properly in the cases, and fully describe them. The moonstone and steps destined for the Museum are about to be forwarded; also two of the beautiful capitals from the Thuparamaya dagoba (of entirely different patterns) and one of the very peculiar capitals from the Dalada Maligawa, representing the sacred tooth relic, along with some bricks (moulded) and several other objects which I have been collecting.

Did Your Excellency see the eight little Buddhas of beaten gold, which Mr. F. Saunders and I took out of an ancient dagoba near Kurunegala? They were to be sent along with some other objects discovered to the Museum. I have furnished a description of these Buddhas with the measurements to Mr. Saunders. The restoration of the "chapel" at the Ruwanwela dagoba (really no chapel, but a screen to the steps leading up to the "pesadas" or procession paths round the dagoba) is put in hand; it must all be taken down and carefully re-erected; I have made a drawing for the restoration, which I will see carried out, at least during my stay in Anuradhapura. With regard to Pollonaruwa and Yappahoo, those ruins ought certainly to be thoroughly dealt with. In fact, something should be done every year in the way of plans, descriptions, and, if necessary, additional photographs, to throw light upon what is now so very obscure, and bring into the prominent notice they so well deserve the highly interesting architectural remains scattered over the Island, beginning of course with Anuradhapura and Pollonaruwa, the ruins of which up to the present time have only been partially and very superficially investigated.

There is still much to do at Anuradhapura, in the palaces, &c., and at Mihintale, which would occupy another couple of months very profitably at some future time; now the proper course is taken, it would be a great pity not to pursue it to a satisfactory termination, and I trust Your Excellency's successor will take sufficient interest in these matters to induce him to provide the means annually for carrying on the good work so well begun.

The translation of the remaining chapters of the Mahawanso, due to Your Excellency, is a work of the utmost importance, and its value in elucidating the past history of Ceylon from the 5th century is incalculable. I do not know how far the translations have proceeded, but for archæological purposes it is desirable that certain chapters should be translated and furnished to Government at as early a date as possible; I enclose a list (taken from Turnour's Mahawanso) of these chapters which seem likely to be of archæological interest, and would specially call attention to chapters 72, 73, and 74, also chapter 88, which I believe would be a great assistance to me when I visit Pollonaruwa. The "Thupawanso" is another work of great interest, which I am told has never been translated into English; it explains the construction of the dagobas and their condition and aspect in the 6th century, I should be very glad if I could get this book read to me at the library of the Museum, as it may probably throw much light on various points which I am at present very doubtful about.

I think I need say nothing further on this subject; but Your Excellency may rest satisfied that archæology and architecture, as well as the Museum and other matters in which I know you take great interest, will not be neglected after your departure from the Island.

I have, &c.,

JAMES G. SMITHER.

Enclosure No. 3 in No. 23.

The Colonial Office to Sir W. H. Gregory, K.C.M.G.

Downing Street, 28th August, 1877.

Sir,—I am directed by the Earl of Carnarvon to acknowledge the receipt of your letter of the 1st August, giving an account of the literary and scientific work undertaken in Ceylon during your Government of that Colony.

Lord Carnarvon has read your report with the greatest interest, and requests me to convey his thanks to you for the labour and care which you have bestowed upon it.

With regard to the recommendations which are contained in the concluding paragraph of your report, I am to state that His Lordship fully recognizes the importance of carrying out the undertakings of which you give so clear a resumé; he has had much pleasure in communicating on the subject with Sir James Longden, in a despatch, copy of which I am to enclose for your perusal, in the full conviction that he will be found ready and willing to carry on a work which has been well begun, and to bring your suggestions into effect, according as circumstances allow.

I am, &c.,

R. H. MEADE.

LITERARY AND SCIENTIFIC WORK.

PAPERS.

No. 24.

No. 24.

Lieutenant-Governor the Hon'ble ARTHUR N. BIRCH, C.M.G., to the Earl of CARNARVON.

No. 158.
Miscellaneous.

Queen's House,
1st September, 1877.

MY LORD,—I HAVE the honor to acknowledge the receipt of Your Lordship's despatch No. 174 of the 20th July last, on the subject of the papers left by the late Dr. Goldschmidt.

With reference to the instructions requiring me to forward to your Lordship Dr. Goldschmidt's papers for communication to Dr. Rost, I enclose for your information copy of a report by Mr. L. De Zoysa, an excellent Oriental scholar, whom I appointed to examine and report on them. It will be seen from this report that the notes left by Dr. Goldschmidt are so imperfect as not to be of much value in their present state, and it is a question therefore if it would be worth while forwarding them to Dr. Rost, and whether it would not be better to retain them here for Dr. Goldschmidt's successor to work upon.

I have, &c.,
ARTHUR N. BIRCH.

Enclosure in No. 24.

Mudaliyar L. DE ZOYSA to the Hon'ble the COLONIAL SECRETARY.

Colombo, 14th August, 1877.

SIR,—I HAVE the honor to acknowledge the receipt of your letter of the 3rd instant, informing me that His Excellency the Lieutenant-Governor would be glad to receive from me an early report on the value and extent of the information collected and left in MSS. by the late Dr. Goldschmidt.

I beg to report that I have examined the MSS. referred to. They consist of about 25 notebooks of various sizes, and four packets containing loose papers, memoranda, &c.

The notebooks contain extracts from MSS. and books found in the India Office library, from the Journal of the Royal Asiatic Society, and other Oriental publications relating to Oriental archæology and literature, and notes on the same and kindred subjects. There is, however, very little relating to Ceylon in these notebooks, except a few notes on Ceylon inscriptions and attempts at their decipherment. But these are, I regret to say, in such an imperfect state as to make them of little value, except for the purpose of furnishing useful hints to future labourers in the same field of literature.

The four packets of so-called MSS. consist of loose papers, scraps, and memoranda containing hurried and imperfect notes on various subjects, such as Ceylon archæology, inscriptions, philology, hand copies of inscriptions and attempts at their decipherment, &c. These notes are, however, not only imperfect and hurriedly written, sometimes in ink and sometimes in pencil, but so mixed and jumbled up together in utter confusion as to make their arrangement and decipherment an exceedingly difficult and laborious task.

I may be permitted to add, that had the learned and lamented Doctor lived to complete the great work which he so well begun, there cannot be a doubt that out of this mass of imperfect and disjointed notes and memoranda he would have produced a harmonious whole, alike interesting and valuable; but as it is, I think the only really valuable part of his labours now available to the public are the photographs and facsimiles of inscriptions, an idea of the extent of which may be formed on reference to the list furnished by the Auditor-General.

I have, &c.,
L. DE ZOYSA.

No. 25.

No. 25.

Telegram from SECRETARY OF STATE.—Dated November 12, 187

"Send home all Goldschmidt's papers on Inscriptions.—Despatch 158."

No. 26.

No. 26.

Governor Sir J. R. LONGDEN, K.C.M.G., to the Earl of CARNARVON.

No. 90.
Miscellaneous.

Queen's House,
Colombo, 20th December, 1877.

MY LORD,—WITH reference to Your Lordship's telegram of the 13th November last, I have the honor to inform you that I forward by this Mail, in a separate case, all the papers on Inscriptions left by the late Dr. Goldschmidt.

I have, &c.,
J. R. LONGDEN.

II.

OBSERVATIONS AND RETURNS

RELATING TO

THE LUNATIC ASYLUM AND CIVIL HOSPITALS OF CEYLON

FOR THE YEAR 1877.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

RETURNS

RELATING TO

THE LUNATIC ASYLUM AND CIVIL HOSPITALS OF CEYLON,

FOR THE YEAR 1877.

From the PRINCIPAL CIVIL MEDICAL OFFICER and INSPECTOR-GENERAL OF HOSPITALS to the Hon'ble the COLONIAL SECRETARY.

LUNATIC ASYLUM AND CIVIL HOSPITALS.

RETURNS.

No. 253.

Principal Civil Medical Office,
Colombo, 25th March, 1878.

SIR,—I HAVE the honor to forward herewith the annual returns of the lunatic asylum and civil hospitals of Ceylon for the year 1877, for transmission to the Secretary of State for the Colonies; and beg to submit for his information the following observations in explanation of the mortality in the medical institutions under my supervision:—

I also take this opportunity of replying to the remarks made in the Despatch, Ceylon, 219, Downing Street, the 27th of August, 1877, a copy of which was forwarded with your letter No. 727.

2.—I have taken every precaution in my power to make these important documents as accurate and free from error as possible, the figures have been subjected to the strictest scrutiny, and I have had the cubic and superficial dimensions of the wards re-measured by the Public Works Department, and the number of beds allowed for each re-arranged so as to avoid any overcrowding. In many instances I verified the measurements myself; in every case the medical officer in charge did so.

3.—On the first of January, 1877, I introduced into the hospitals of the Colony the use of the nomenclature of diseases drawn up by the Royal College of Physicians of London, and the diseases of the Colony have been classified in accordance with it. Under question IV., page 4, I have given the diseases in classes with the number of cases and the number of deaths. I have, however, also furnished a full list of the diseases treated in the civil hospitals; it will be found in the return marked C. in the appendix.

To avoid any misconception I included the cases of privation in the class "Conditions," and not in that of "Injuries," as arranged in the nomenclature. The return marked B. in the appendix is a most important one, as it separates the patients treated into Malabars and mixed races (Sinhalese, Moors, Malays, Eurasians, Europeans, &c.) It gives a most instructive summary of our hospital returns, and affords at a glance an explanation of the mortality, which may be briefly stated as due to the large number of admissions of destitute Malabars. The return marked A. gives the death-rate in the Ceylon hospitals for the past five years, from 1873 to 1877 inclusive.

4.—As I stated above the cause of the increased rate of mortality,* 16·31 in the year under review, against 10·45 in 1876, is solely due to the Malabar element. Large numbers of these unfortunate people left the famine-stricken districts of Southern India and sought an asylum in this Island, arriving in a state of semi-starvation, without food, the means to purchase it, or the strength or inclination to work; in the absence of alms-houses they had to be provided for in the permanent or temporary wards of the civil hospitals. Some came voluntarily after wandering about the country in search of employment or food, and asked for admission, but the greater number were carried in by the Police, having been picked up on the road side in such a hopeless condition that they were beyond the power of doctor, or medicine or food to aid them, and the mortality amongst them was simply enormous. In this connection I beg to draw attention to the principal causes of death enumerated in the return in the appendix marked B., and to the large number that died from diarrhœa, dysentery, general dropsy, general debility and privation, especially in the hospitals of Colombo, Kandy, Gampola, Badulla, Mátalé, Ratnapura and Kurunégala. These hospitals

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* Mixed Races 8·45; Malabars 23·63.

LUNATIC ASYLUM AND CIVIL HOSPITALS.

RETURNS.

received during the year a large number of starving Indian coolies, and consequently the number of deaths recorded in them and the per-centage of deaths to the number of cases treated are alarming. However, separating the cases treated into mixed races and Malabars,* and calculating the per-centage of deaths for each nationality, it will be at once apparent from the great disproportion between them that the causes were not attributable to sanitary defects, overcrowding, maladministration, or any preventible or remediable conditions, nor to any general cause existing within the hospital, which would affect both races alike, but to some special condition affecting the Malabar alone, and this, I submit, was the state of extreme prostration caused by want of food, or the use of unwholesome food, not only incapable of supporting life, but also of exerting such an irritating effect in the system as to give rise to diarrhœa or dysentery which rapidly proved fatal, or to general debility or general dropsy where life was prolonged. The diarrhœa was of the kind known as famine diarrhœa, where "the tissues first begin to waste and then become absorbed, the mucous membrane gives way, and there is then produced ulceration of the bowels, the symptom of which is diarrhœa."

5.—The nursing arrangements of our hospitals are still open to much improvement, and I beg to refer to my letter No. 291 of the 4th May, 1877, in which I requested that two qualified European nurses should be sent out from England, one to act as midwife for the Lying-in-Home, where she could establish a school for the training of respectable females to act as midwives, either in connection with our civil hospitals or independently in private practice; the second to act as superintendent of the nursing arrangements in that large and important institution the Government Civil Hospital, Colombo, and also to form a class where probationers could be trained as nurses for the civil hospitals at outstations. If these suggestions receive approval, I hope to be able to replace the present attendants by well-trained nurses.

6.—Baths are in existence in connection with most of the civil hospitals, but I cannot state that they are made use of, as the natives, following the habits they are accustomed to, prefer to resort to the nearest stream or river; and warm baths for medical purposes are generally given in the ward.

7.—The latrines in connection with the civil hospitals and lunatic asylum are all conducted on the dry-earth system, the filth being removed and buried at a distance; in the smaller hospitals by coolies employed for the purpose, in the larger ones by contractors. I have not been able to introduce the dry-earth system into the civil hospital at Mullaittívu, owing to the impossibility of procuring labour for the removal of the filth.

8.—During 1877 I inspected every hospital and out-door dispensary in the Island, many of them on several occasions. I regret to state that I was unable to visit the remote stations of Vavuṇiya-Vilánkulam and Mullaittívu; they were however inspected by the Colonial Surgeon of the Northern Province.

9.—One case of erysipelas occurred in a patient who had been some time under treatment and operated upon for club foot in the Government Civil Hospital, Colombo. The disease was communicated from a patient who was admitted suffering from the disease; it did not prove fatal. One case of simple cholera occurred in a patient at Ratnapura; one case of small-pox in a patient at Kandy, who was evidently suffering from the disease when admitted, but he did not communicate it to others; six cases of cholera occurred at Badulla, five amongst patients and one amongst officers; all of which proved fatal. The origin of the disease could not be traced; the first case that occurred was four days in hospital before the disease appeared, the patient was suffering from rheumatism, and he may have been infected with cholera before admission.

Cases of infectious disease, such as cholera and small-pox, are not admitted into the civil hospitals of the Colony. They are treated in separate buildings of a permanent or temporary nature, at a distance from the hospitals for general diseases, and no communication is allowed between the attendants.

10.—In the lunatic asylum there remained under treatment on the 31st of December, 1876, 266 patients suffering from various forms of mental disease, forty-nine cases of acute mania, seventy-seven of chronic mania, seventeen chronic mania with homicidal and two with suicidal impulses, twenty-one cases of recurrent mania (so called,) three of acute and nineteen of chronic dementia, thirty-seven of idiotcy, forty of imbecility, and one case of suspected mania under observation.

124 patients were admitted during the year, thirty-one for acute mania, eighteen for chronic, two for chronic mania with homicidal impulses, and two for recurrent mania, one case of melancholia with suicidal impulses, forty-two for chronic dementia, two cases of paralysis of the insane, and twenty-six patients were placed under observation as suspected lunatics by order of the District Judge, and accommodated in a separate building built for the purpose. Forty-nine cases were discharged, forty-four cured and five relieved; sixty-seven cases proved fatal in hospital, and one epileptic patient committed suicide by hanging. An inquest was held and no blame attached to any of the officials or attendants; the man was subject to almost daily epileptic fits, and after one of them he went inside the ward from the verandah, and with the cloth from his loins committed suicide by hanging, bending his legs so that they should not rest on the ground.

The average daily number in the asylum during the year was 270·63, consisting of 177·55 males and 93·08 females.

* Mixed Races 8·45; Malabars 28·68.

There were remaining on the 31st December, 1877, 273 patients; thirty-six with acute, and seventy-six with chronic mania, seventeen chronic mania with homicidal and two with suicidal impulses, and six cases of recurrent mania, one case of melancholia with suicidal impulse, one case of acute, and fifty-four of chronic dementia, two of general paralysis of the insane, thirty-seven of idiotcy, forty of imbecility, and one case under observation.

Twenty-eight of the above were criminal insanes, twenty of whom had committed offences against the person, sixteen either murder or manslaughter, and four aggravated assaults; three were declared insane after committing offences against property without violence, two for cattle stealing, and one for theft, and five were admitted into the asylum after trial for miscellaneous offences.

Hospital.

At the end of 1876 two cases remained under treatment in hospital, and 118 were admitted during the period under review, making a total of 120 cases treated: thirty-nine of those were discharged into the asylum, sixty-seven died, and thirteen sick remained on the 31st of December, 1877.

The average daily sick in hospital amounted to 6·82—4·70 males and 2·12 females.

The causes of death were as follows:—

Simple continued fever	...	1	Inflammation of the liver	...	1
Remittent do.	...	1	Jaundice ...	...	1
General dropsy	...	3	Abscess of brain	...	1
Apoplexy	...	5	Gangrene ...	...	1
Softening of the brain	...	1	General debility	...	13
Enteritis ...	...	1	Old age ...	...	1
Dysentery ...	...	8	Suicide ...	...	1
Diarrhœa ...	...	28			
Hæmorrhoids and Hepatic disease		1			68

The mortality, including the case of suicide, was 174·3 per 1000 of the insane population, and on the cases treated in hospital, excluding the case of suicide, 55·83 per cent.

Forty-four postmortem examinations were made during the year with the object of ascertaining, if possible, the etiology of the diarrhœa and dysentery. Invariably they were found to depend or exist in connection with chronic organic disease of the liver or spleen.

The cases were admitted into hospital and the disease diagnosed from the most prominent symptom, but neither diarrhœa, nor dysentery occurred at any period during the year in an epidemic form.

In this connection it may not be considered unnecessary to state that nearly all diseases in the tropics terminate by diarrhœa or dysentery, and especially amongst the insane who either conceal disease, or are perhaps unconscious of its existence until detected by the medical attendant.

I beg here to draw attention to the number of admissions into the asylum during the past year, and annex the numbers for the past five years:—

1873	 59	Admissions.
1874	 56	"
1875	 72	"
1876	 93	"
1877	 128	"

Nineteen of the deaths or 15·32 were in patients admitted in 1877, twenty-one in 1876, six in 1875, and twenty-two in years before 1875.

The reason for this large increase in the numbers seeking admission is to be found in the dearness of food, and the expense of living in Ceylon, in consequence of the famine which prevailed so extensively in India. The Sinhalese, resident Tamil, &c., are reluctant to part with their insane relations and permit them to enter an asylum; however, during the past year, for the causes above stated, the poorer classes were unable to support them, and they gladly placed them in the asylum, often, I am sorry to add, in such a state of debility and at a period of the disease when cure was impossible. The remarks made by the medical superintendent in recording the bodily condition of those admitted, confirms this statement. Such terms as "delicate," "weak," "emaciated," "indifferent" or "sickly," are frequently used, and from personal observation I can state that many of the cases reached the asylum in a wretched condition, their relatives having kept them as long at home as they could afford to feed them.

Another cause which I have little doubt predisposed the patients in the asylum to attacks of diarrhœa and dysentery, although every precaution was taken to protect them. I allude to the rainfall in 1877, which was quite exceptional, not only as regards the quantity of rain that fell, but also the number of wet days.

The following table gives the amount of rain in inches for the past five years:—

Year.		Quantity.		Number of wet days.
1873	.....	85·62	.....	140
1874	.....	57·03	.....	156
1875	.....	89·57	.....	155
1876	.....	86·51	.....	125
1877	.....	105·84	.....	190

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I need scarcely point out how this excessive and almost constant wet acted (1) in rendering unhealthy a low lying site which it is impossible to drain except by machinery, and (2) acted injuriously on the almost naked bodies of the insane, subjecting them to chill, particularly the aged and feeble. I may add that to obviate the effects of the wet and damp, the insane were supplied and compelled to wear flannel belts over the abdomen, and they were kept in the verandahs and dormitories as much as possible out of the rain.

During the year I instituted the most careful investigation, detailed below, into all the arrangements of the asylum, and into everything bearing upon the health of the insane.

I have no hesitation in adding that every effort was made by the medical superintendent in charge to prevent the occurrence of disease, and to detect and treat the cases that occurred in as early a stage as possible.

It will be apparent upon examining the mortuary table that the principal causes of death were diarrhœa, dysentery, and general debility; but I was unable to trace their origin to causes remediable by the medical department.

(*a.*) The site, construction, ventilation, drainage and arrangement of the asylum buildings have been so frequently unfavourably reported upon, and they are in my opinion so irremediably faulty, that it is unnecessary to do more than merely allude to the defects here.

(*b.*) By the erection of two temporary wards (plan annexed) capable of accommodating sixty patients, I increased the amount of accommodation. The average amount of cubic space available for each patient was, in the dormitories 595·2; in the day rooms and corridors used as day rooms 963·7; in the single rooms 1,248, and in the temporary wards, 884 cubic feet.

(*c.*) I caused the water of the wells which supply the asylum to be analysed, and I here give the result obtained.

No. of Well	Total solid matter per gallon.	Oxygen used in O. for organic matter.	Nitrogen As Nitrates, &c.	Ammonia. Saline	Ammonia. Organic.	Hardness (Clarke's scale.) Before boiling.	Hardness (Clarke's scale.) After boiling.
	Grain.	Grain.	Grain.	Grain.	Grain.	Grain.	Grain.
No. 1	30	·005	·050	·002	·006	4	1
" 2	35	·001	·057	·001	·008	9	7
" 3	25	·002	·074	·008	·006	4	1
" 4	35	·001	·057	·010	·008	3	1
" 5	30	·002	·074	·002	·006	6	2·

The analyses were made according to the method published by the Society of Medical Officers of health, so that they admit of easy comparison with the water supply of London.

(*d.*) The following table gives the nutritive value of the diets used in the lunatic asylum, the component parts of which are given in the printed table forwarded with the returns, the low and spoon diets are solely used for the sick in the infirmaries, the medical officer in charge ordering, in addition, any extras he considers necessary.

Diets.	Nutritive Value. Albuminates.	Carbohydrates.	Fats.	Salts.	Nitrogen.	Carbon.
	oz.	oz.	oz.	grs.	grs.	grs.
For Europeans and Burghers.						
Ordinary	4·46	13·92	1·97	238	544	4431
Low	1·32	12·32	·53	85	88	2735
Spoon	·58	8·14	·07	23	25	1686
For Natives.						
Ordinary	3·55	17·99	1·20	395	225	4749
Low	1·00	9·95	·33	65	67	2206
Spoon	·38	7·76	·07	23	25	1594

The milk in use for the sick is supplied by the industrial department of the asylum at a small profit, and paid for by Government. I thus ensure a non-adulterated article for the use of the aged and feeble.

(*e.*) In wet weather and at night the insane wear flannel belts across the abdomen, and in the cold season when there is often a sudden fall of temperature towards morning, an extra blanket is issued. I also introduced during the year the general use of wooden cots; previously the patients, following the usual custom of the country, slept upon the ground on mats.

The patients amuse themselves with card-playing, chess-boards, native music and bagatelle tables; in the evening, weather permitting, they play cricket in the asylum grounds, and once a week they drive out to hear the Military and Police bands. They are occasionally entertained with dissolving views and a magic lantern, which add much to their happiness.

The insane who are able to work are employed in various ways, such as mat-making, coir-twisting, gardening, the preparation of various fibres and arrowroot, carpentry, and assisting the attendants in maintaining cleanliness and cooking; they are rewarded for the work by cigars, betel and tobacco.

An industrial fund has been established in connection with the institution, and on the 31st of December, 1877, there was a balance shewn of 7,703 rupees and 16 cents. The profits for the year amounted to 237 rupees and 17 cents, which with the interest were added to the fixed deposit.

In conclusion I annex the following extract from the report of the medical superintendent.

"In my experience of seven years in charge of the asylum, on a previous occasion, and my subsequent diligent search for the causes of death in cases that have occurred in 1877, I can find nothing that human experience or forethought or medical skill could have done to lessen the mortality in question."

"The year 1877 was notoriously more sickly throughout the Island than I have ever known it during an experience of a service extending over a period of thirty-five years, in all parts of the Island, and seven years spent in the service of this asylum.

"The weather was unprecedentedly wet, as is admitted by all departments of Government. The incessant rain preventing the patients enjoying their open-air exercise, and having a decided depressing effect on the weak, melancholic and sufferers from sickness of all kinds. The sick were tended in the infirmaries, male and female, with the utmost vigilance, both as regards medical treatment, nursing by night and by day, and nourishments suitable to their condition liberally provided. A very large proportion of the casualties occurred among recent admissions who were as a rule admitted in a weak and debilitated condition, and had to be kept up on extras from the day they were admitted. All these patients were sent into this asylum by their friends. After they were kept under mechanical restraint in their villages, and owing to the great scarcity of food that occurred in 1877, they were sent to the asylum as a last resort.

"As far as I am aware not one death occurred from a preventable cause, and organic disease of the brain, lungs, heart or liver were the causes of death in all fatal cases."

Merchant Seamen's Hospital.

11.—Eighty-five cases were treated with five deaths, one from phthisis pulmonalis, one from ascites, one from intussusception, one from concussion of the brain, and one from tetanus, after a surgical operation.

I purpose during the present year transferring the patients to special wards in the Government Civil Hospital.

Government Civil Hospital, Colombo.

12.—This hospital is one of the most important in the Island, and receives a large number of surgical, medical, and obstetric cases. The average daily sick during 1877 amounted to 165·80, and consisted of 49·34 of the mixed races, and 116·46 of the Malabars. 1,501 of the former and 2,006 of the latter were admitted during the year, making a total of 3,602 cases treated, 181 of the mixed races died, or 11·79 per cent.; 483 Malabars died, or a per-centage of 23·35. The principal causes of death will be found in the return marked B. in the appendix, and I here give an extract from the annual report of the medical officer in charge in explanation of this enormous mortality amongst the Malabars.

"Owing to the famine in India the number of immigrants in Ceylon during the year was unusually large. In the absence of an almshouse a large number of Malabars picked up by the Police in the streets was sent into hospital from time to time, either in a starving condition or suffering from bowel complaints. The pressure on the hospital accommodation was subsequently somewhat relieved by the removal of needy Malabars to the Dematagoda temporary almshouse, and the admission of sick only into hospital for treatment. Of 219 cases of privation treated 102 died, giving a death-rate of nearly fifty per cent. The deaths were caused principally by diarrhœa or exhaustion from want of food, many of the cases having been brought in by the Police in a state beyond recovery."

The Leper Hospital.

13.—There remained on the 31st December, 1876, eighty-three cases of leprosy, and seventy-two patients suffering from that disease were admitted during the year, making a total of 155 cases treated, forty-five cases were discharged, fourteen died, and ninety-six remained on the 31st December, 1877.

Besides lepers there are wards set apart for a limited number of paupers suffering from chronic or incurable diseases. Of these, thirteen remained under treatment on the 31st December 1876, eighteen were admitted during the year, making a total of thirty-one cases treated. Eighteen were discharged at their own request and to prevent overcrowding, eight died, and five remained on the 31st December, 1877. The average daily sick was 94·23 lepers, viz., 83·97 males and 10·26 females; and 12·77 paupers, consisting of 10·18 males and 2·59 females.

Of the patients discharged, nineteen paupers and lepers were cured, seventeen were relieved, and twenty-seven not improved.

Of the total cases treated, 145 belong to the mixed races, and forty-one were Malabars, the per-centage of deaths was 13·1 for the former, and 7·31 for the latter.

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To meet the demand for admission a temporary ward similar to that at the lunatic asylum, a plan of which is annexed, but smaller in size, was erected. This was pulled down towards the close of the year, and the Government sanctioned the construction of two permanent wards, with large bath-rooms, for the use of the lepers. These are now building, and will be finished towards the middle of the present year.

Gurgun oil.

The treatment of leprosy by gurgun oil is being vigorously carried out, with the effect of alleviating the disease, and in some cases apparently curing it.

Panadure.

14.—Extensive alterations were commenced at the Civil Hospital, Panadure, towards the middle of the year, but as they were not completed at the end of December it is not necessary to forward a plan; one will be sent with the return for 1878.

Kegalla.

15.—There has been no overcrowding at the Civil Hospital at Kégalla. Although there are no special bath-rooms, I am not aware that the patients suffer any inconvenience, as they prefer bathing in the stream which is close to the hospital, and tubs are available for warm baths, or for the feeble who are unable to resort to the stream.

259 of the mixed races were treated, and 294 of the Malabars. Nineteen of the former died, of a per-centage of 7·33 to the cases treated, and forty-three or 14·62 per cent. of the latter died.

The medical officer in charge offers the following remarks with reference to the high death-rate:—

"The mortality is high compared with last year, but it can be accounted for by the admission of a large number of bad cases in the last stage of disease, the subjects mostly being destitute Malabars whose constitutions, broken down by privation, could ill resist the ravages of disease; the mortality was therefore unremediable."

Ratnapura.

16.—There was slight overcrowding for a few days in the medical and surgical wards, as each contained two more patients than allowed by regulation; but the erection of a temporary ward similar in plan to that for the lunatic asylum, but smaller, supplied all the extra accommodation that was required to meet the demands for admission by destitute Malabars.

217 patients belonging to the mixed races and 686 Malabars were treated during the year. Of the former twenty-nine died, shewing a per-centage of 13·36 deaths to cases treated. 158 Malabars died giving a per-centage of 23·03.

Negombo.

17.—To avoid overcrowding in the hospital consequent upon the large numbers seeking admission owing to a severe epidemic of intermittent fever which appeared after the subsidence of the extensive floods in the Negombo District, I caused three temporary wards to be built, one for females capable of holding fourteen patients, and two for males capable of holding twenty and sixteen patients each, thus increasing the hospital accommodation by fifty beds.

The mortality was low, being only 5·3 per cent. of cases treated amongst the mixed races, and 8·8 amongst the Malabars. I may here add that this hospital as a rule receives no coolies from coffee estates.

Kurunegala.

18.—The mortality in this important hospital was low amongst the mixed races, being only 8·56 per cent. of the cases treated; it was, however, high for Malabars, 16·17 per cent. of the cases treated having died.

Although a larger number were at times accommodated in the wards during the year than the number of beds assigned, the hospital was not overcrowded.

In male wards Nos. 1, 2, and 3, with sixteen patients in each, the minimum cubic space was 900 feet, and the average amount 1,358·49. In wards 4 and 5, with eleven patients in each, the minimum cubic space was 800, and the average 1,169·01. In wards 6 and 7, the minimum with twenty-one patients was 838, and the average 1,254·38.

I may also state that these general wards have only half walls, so that the quantity of air supplied is almost unlimited; each patient had fifty-two superficial feet. In ward No. 8, with fifteen patients, which is one above the regulated number, the minimum was 738, and the average 1,097·14.

With reference to the remark by the Secretary of State on the return for this hospital for 1876, in the Despatch quoted at the beginning of this report, I beg to state that a plan for an extra female ward has been prepared by the Public Works Department and submitted for my approval.

Puttalam.

19.—The mortality has been low both amongst the mixed races and Malabars, being 2·48 per cent. for the former, and 7·76 for the latter.

This hospital receives no estate coolies.

To avoid overcrowding a temporary ward was built during the year. Subsequently this was pulled down, and two new permanent wards were commenced, a plan of which will be forwarded with the return for the present year.

Chilaw.

20.—The mortality has been low in this hospital, 3·87 for the mixed races, and 5·88 for Malabars.

Galle.

21.—This important hospital receives principally patients of the mixed races, especially Sinhalese, only 222 Malabars having been treated against 1,355 of the former; the per-centage of deaths to cases treated was 7·01 for the mixed races, and 11·71 for the Malabars.

With reference to the remarks in the Despatch, Ceylon (219), where his Lordship draws attention to the answer in the Hospital Return for 1876 on the subject of baths, I beg to

state that no inconvenience whatever has been experienced by the faulty construction of the entrance into the bath-rooms; on the completion of the hospital in 1874 it was found that although the bath-rooms were sufficiently large the entrance into them was too small to admit the ordinary sized bath tubs. A very simple expedient was adopted, the bath tubs were taken in pieces, carried into the room, and there put together where they have remained effective ever since.

As I am abolishing the use of wooden baths in all the hospital bath-rooms in the Island and substituting cemented ones for them, it is my intention to have cemented baths for this hospital also.

Mátara.

22.—In this hospital the mortality for both mixed races and Malabars was comparatively low, being 10·36 for the former, and 8·94 for the latter, one of the few instances where the mortality of the mixed races exceeds that of the Malabars.

Hambantota.

23.—With reference to the remarks in paragraph 5, of the Despatch, (Ceylon 219), on the accommodation in this hospital, I beg to state that extensive alterations have been carried out during the year under review, and increased accommodation provided. The buildings now occupied as the Civil Hospital were formerly stores and afterwards converted into an out-door dispensary, and finally a hospital. I have improved the place as much as possible, adding a female ward, surgery, converting two small wards into one large one, building a dead-house, latrines on the dry-earth system for males and females, and a bath-room. There was no overcrowding during the year.

I annex a plan shewing the alterations and additions, but I regret to observe that the Public Works Department have not shewn the position of the latrines and bath rooms.

Tangalla.

24.—Until 1876 the Tangalla hospital was known as an out-door dispensary. Having been built by subscription it was handed over as such to this department by the subscribers in 1875. Last year I had additional accommodation provided, surgery, female ward, latrines and bath-rooms were added, and converted it into a civil hospital. The station is small and unimportant. 126 cases were treated without a death.

A plan of the hospital is annexed.

Trincomalee.

25.—I find that the plan furnished to this office by the Public Works Department, and forwarded last year with the return for 1876, was incorrect. I therefore take this opportunity of annexing a correct plan, and regret extremely the mistake.

There was no overcrowding in the hospital during the year.

Batticaloa.

26.—Only 450 cases were treated in this hospital, consisting of 208 of the mixed races, and 242 Malabars: the mortality amongst the former being 1·92, and amongst the latter 4·95.

According to the medical officer the wards were not overcrowded during the year.

Mullaittivu.

27.—Extensive improvements will be effected in this hospital during the current year, the Council having voted a sum of rupees 5,000 for the purpose.

345 cases were treated during the year of the mixed races, and eleven Malabars; the per-centage of deaths to the cases treated amongst the former being 2·39, and amongst the latter 9·09.

This is the only hospital where I have been unable, owing to the difficulty of procuring labour for the removal of the filth, to introduce the dry-earth system.

Vavuniya-Vilánkulam.

28.—Although there are no special baths, tubs are available for the patients. I shall add a bath-room during the year.

I wish to draw particular attention to the enormous number of deaths in the hospitals of Kandy, Gampola, Badulla, Mátalé, and Nuwara Eliya, and to the remarks of the medical officers in charge in explanation.

Kandy.

29.—In Kandy, 3,489 cases were treated; 1,401 of the mixed races with ninety-two deaths, or a per-centage of 6·56 to cases treated, and 2,088 Malabars with 663 deaths, or a per-centage of 31·75. 436 died from diarrhœa, 100 from dysentery, seventeen from general dropsy, 111 from general debility, three from fevers, and eighty-eight from other diseases.

I annex the following extract from the medical officer's annual report:

"The great increase in the numbers treated was solely due to an influx of Malabars. Of the Malabars the great majority were estate labourers, most of whom were outgoing. The previous history given in these cases were that they were in a state of semi-starvation in India, and were brought out to work on coffee Estates. Some few got sick on their way to the estates, and were abandoned on the road. The greater number were found on reaching the estates either unfit for work, or after working for a time were taken ill and were sent away.

"These begged their way to the hospital, or were found lying helpless on the roads and were brought in by the Police.

"The mortality this year has been 21·63 per cent, being higher than the average of the previous nine years by 8·16. This increase of mortality was due to the increased number of moribund and semi-moribund Malabars admitted, as well as to the great number of Malabars admitted being in such a state of emaciation and anæmia, that their vital powers were not capable of responding to any treatment. Their digestive organs along with the rest being degenerated; and the secretions vitiated to such an extent that the blandest and most nourishing food was neither digested nor absorbed. These Malabars were the sufferers in the last great Madras famine.

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Kurunegala.

"The diseases in which the greatest mortality occurred were general dropsy, dysentery, diarrhœa and general debility. Although from the immediate symptoms present these cases are classed under the above four diseases, the primary causes were the same. These men after some months of semi-starvation in India were induced to undertake a fatiguing journey to a cold and damp climate, and were put to work frequently exposed to rain. When they got ill, were for hours or days without food, and those that reached the hospital were found frequently to have insufficient vitality left in them to recover."

One temporary ward was erected to meet the increased demand on the hospital accommodation.

Gampola.

30.—In the Gampola Civil Hospital 1,686 cases were treated: 534 of the mixed races, and 1,152 Malabars. Sixty-two of the former died giving a per-centage of 11·61 to the cases treated, 365 of the latter died, or a per-centage of 31·68, forty-one died from cholera, 127 from diarrhœa, 178 from dysentery, five from general dropsy, sixteen from general debility, and sixty from other causes.

The cases of cholera were all treated in a separate building at a considerable distance from the civil hospital. Two temporary wards were built in connection with the hospital during the year.

I annex an extract from the annual report of the medical officer in explanation of the mortality.

"(*a*.)—The numbers treated in hospital during the year have been the largest we have had for several years, the nearest approach to them being 1,324 and 1,873. Out of the 1,686 patients treated this year, 795 were cases of chronic dysentery, diarrhœa, and general debility occurring among half-starved Malabar coolies returning to the coast after having once worked in coffee estates. All these cases were characterized by marked asthenia.

"(*b*.)—The increase in the number treated as well as in the number of deaths, particularly of cases of bowel complaints and general debility, has been chiefly due to famine in Southern India, the enhanced price of rice in Ceylon, and the scanty food the coolies subsisted on, previous to admission into hospital.

"The greatest number of admissions and deaths has been among those who visited the Island for the first time, and whose residence in it was under a year. 827 Malabar coolies give an average residence in Ceylon, previous to admission, of thirteen months; and 545 patients give an average duration of illness, previous to admission, of forty-five days or six and a-half weeks; and 365 Malabars who died in the hospital give an average duration of residence in hospital of 12·99 days.

"(*c*). Of the deaths which occurred in hospital among Malabars in 1877."

" 27	occurred on the	1st day of	admission
24	.....	2nd	do.
24	.....	3rd	do.
21	.....	4th	do.
22	.....	5th	do.
21	.....	6th	do.
17	.....	7th	do.
49	within	10th	do.
52	do.	15th	do. "

31.—In this hospital 921 cases were treated: 438 of the mixed races, and 483 Malabars, with thirty-six deaths amongst the former or a per-centage of 8·21, and 140 of the latter, being 28·98 per-cent. to cases treated. Nine died from cholera, 102 from diarrhœa, thirty-five from dysentery, four from general dropsy, ten from general debility, two from fevers, and fourteen from other causes.

To prevent overcrowding two temporary wards were built capable of accommodating thirteen patients, seven in one and six in the other.

A new female ward to accommodate fourteen patients was nearly completed at the end of the year.

The medical officer in charge commenting on the mortality states: The majority of deaths were among half starved Malabars with long standing bowel affections, who were admitted in an advanced stage of disease, and again he remarks "the increase in mortality has been chiefly owing to scarcity of food and the influx of half starved Malabars, who were admitted into hospital in a condition when treatment could be of no avail."

Matale.

32.—One thousand and twelve cases were treated in the Matale Civil Hospital; 280 of the mixed races, and 1,032 Malabar. 54 of the former died or a per-centage of 19·28, 427 of the latter died or a per-centage of 41·37, the highest mortality of any hospital in the Island; thirteen died from cholera, 254 from diarrhœa, seventy-nine from dysentery, three from general dropsy, ninety-nine from general debility, three from fevers and thirty from other causes.

I annex the following extracts in explanation of the large mortality from the annual report of the medical officer in charge of this important station.

"The mortality here continues high, depending principally on the very unsatisfactory class of cases brought in for treatment, this the only cause of the mortality cannot be defined as irremediable, for the simple reason, that if those immediately concerned with the Malabar coolies could be compelled to send them in for treatment on the first appearance of illness, the mortality would nearly cease, or at all events, be nothing like so high as it has been for some years past."

"I feel it my duty to say a few words on the subject of immigration, and how far the class of immigrants that came over this year from India soon after the famine, and the emigrants that returned to India during the latter part of the year, affected the mortality of our hospitals.

"That the immigrants of this year were in a worse condition (physically) than those of other years few will deny. Most of those that were carried into our hospitals were apparently men belonging to regular gangs going to coffee estates in charge of kanganies, and who were deserted on the road on their getting ill and unfit to keep up with their friends. Matters were so bad in connexion with these people, that I felt compelled to address a special letter on the subject to the head of my department in August last. A few of this class (immigrants) had evidently come over to the Island, independently in search of something to do, but they form a very small proportion indeed to those that came with Kanganies. The class of immigrants improved towards the latter end of the year, and this any one used to go up and down the North road could not help noticing. Our mortality continued heavy however, and this was soon found out to be owing to the almost worse condition of the emigrants that were brought to the hospital by the patrols during the last two months of the year. These men, without exception almost, were found on enquiry to have been genuine estate coolies, who were turned away from where they were working by their kanganies on their getting ill and unfit to do any work, and therefore of no use to them! I have more than once spoken on the subject to the principal official of the station, viz., the Assistant Government Agent, and I am very much mistaken if his experience in the matter is found to be different from mine. On the contrary, from what he has seen of the men up and down the North road during the last half year, he will I think, bear me out in everything I have said.

"From a return supplied to me from the Kacheheri I find that the following number of emigrants and immigrants passed through Dambulla during the year, viz., immigrants, 120,917; emigrants (from March), 19,733.

"The number of distressed immigrants relieved at this station during the year amounted to 420, and the number of emigrants, 200—making a total of 620! against only 37 of both classes relieved during the year previous."

Two temporary wards were put up towards the end of the year, but they were not occupied until the first week in January of the present year.

Nuwára Eliya.

33.—During the year 1877 the old Government Civil Hospital of this station was abandoned, and the Military Hospital taken over by the Civil Medical Department. I annex a plan of the building.

294 cases were treated during the year; ninety-three of the mixed races, and 201 of the Malabars. Eleven of the former died giving a per-centage of 11·82, and sixty-nine of the latter or a per-centage of 34·32; two died from simple cholera, three from diarrhœa, twenty-four from dysentery, three from general dropsy, twenty-one from general debility, four from fevers, and twenty-three from other diseases.

Although the wards were slightly overcrowded during the year, I am of opinion, as the numbers seeking admission in 1877 were exceptional, that the amount of accommodation is ample for the station.

The medical officer in charge reports as follows in explanation of the mortality:—

"Dysentery and diarrhœa were the diseases on account of which there were most admissions, and the next in number were cases of general debility. The great majority of these cases were Malabar coolies, either residents or on their way to or from the coast. The bad weather during the greater part of the year, and the miserable condition of the immigrants from privation, &c., were no doubt the causes of the increase in admission into the hospital, and also the high rate of the mortality."

34.—In appendix C., under the head of diseases of the cutaneous system, will be found a term used to designate a disease which has hitherto been supposed to be endemic in and peculiar to this Colony. It has been in use by the "wedaralas" or native quacks of the Island since the time of the Portuguese; the word simply means "foreign," and is evidently a corruption of "ferengi." The "wedaralas" include under the term a vast number of different forms of ulceration simple or specific and many common skin diseases; by some it has been supposed to be syphilitic, by others a form of leprosy, and by a third a combination of the two.

680 cases are included in the hospital returns of the Colony, and on my inspections wherever I have had an opportunity of studying the disease I have done so, and I am convinced that a great many totally distinct diseases are included under "Parangy." I have however not yet been able to make up my mind whether there is a disease in Ceylon which cannot be included under one of the names at present known to medical science or not.

The head quarters of the disease seem to be Mullaittivu, Vavuniya-Vilankulam, Kurunégala, Puttalam, Chilaw, and the southern coast from Galle to Tangalla.

I have identified the following diseases returned as "Parangy":—1st, lupus and various forms of lupoid ulcerations; 2nd, rodent ulcer; 3rd, syphilitic ulcerations attacking the hard and soft palates and nose; 4th, cases of hereditary syphilis; 5th, scrofulous ulceration; and 6th, the most curious fact in connection with my enquiries, I have, I believe, recognised the disease known as yaws in the West Indies, as existing in Ceylon. I was led to this latter discovery by reading the very able report by Dr. Gavin Milory on leprosy and yaws in the West Indies, that gentleman's reply to Colonial Surgeon Dr. Loos forwarded through the Colonial Office, and his contributions on the same subject to the "Medical Times" and "Gazette."

LUNATIC ASYLUM AND CIVIL HOSPITALS.

RETURNS.

I will merely add one remark in conclusion, that although in the yaws of Ceylon characteristic elevated rupial like crusts are well marked, I have, up to this, failed to find the raspberry-like fungus appearance beneath. After healing, the dark stains on the dark skin are invariably found. It will be interesting to ascertain if the peculiar scars, cicatrices, contractions of joints, and deformities so frequently seen in our hospitals in certain districts of the Island are due to this curious disease hitherto considered to be unknown in this Island.

It will also be strange if the disease is confined to Ceylon and unknown on the Continent of India.

I have been unable hitherto to trace the connection between the yaw eruption and its after results, but I have interested several of my officers in the enquiry, and have no doubt I shall be able to report more fully on a future occasion.

I may add that as far as I have been able to ascertain, there seems to be no connection between the disease which I consider yaws and syphilis.

I am, &c.,

W. R. KYNSEY,
Principal Civil Medical Officer,
and Inspector-General of Hospitals.

CEYLON.

LUNATIC ASYLUM RETURN.

Question I.—(Statistical.)

GENERAL STATISTICAL TABLE.

	Number admitted during 1877.	Daily Average Number during 1877.	Number of Attendants. Resident. Employed in Attendance on the Patients.	Resident. Employed as Servants or only partially as Attendants.	Non-Resident. Employed in Attendance on the Patients.	Non-Resident. Employed as Servants or only partially as Attendants.	Discharged. Cured.	Relieved.	Not Improved.	Number of Patients who died in 1877.	Average Stay of those Died in 1877.	Discharged.	Remaining at end of 1877.
											y. m. d.	y. m. d.	y. m. d.
Males ...	84	177·55	18	4	—	—	37	5	7	45	3 4 15	1 1 13	6 3 0
Females ...	40	93·08	11	—	—	—	7	—	—	23	2 0 13	0 5 15	5 7 10
TOTAL...	124	270·63	29	4	—	—	44	5	7	68	5 4 28	1 6 28	11 10 10

OBITUARY TABLE.

Number of Deceased on Register.	Age of Deceased.	Sex of Deceased.	Bodily Condition when admitted.	Form of Mental Disorder.	Date of Admission.	Cause of Death.	State whether a Coroner's Inquest was held, and what was the Verdict.	State whether a Post-Mortem Examination was held.
2	35	Male	Weak and emaciated	Rect. Mania	23rd Dec., 1876	Apoplexy	No.	No.
135	30	do.	do.	Mania	30th Nov., "	Genl. Debility and Diarrhœa	do.	Yes.
11	62	do.	Good	Imbecility	29th June, 1850	Apoplexy	do.	do
56	21	do.	Weak and emaciated	Mania	7th April, 1873	Diarrhœa	do.	do.
100	25	do.	Delicate	Mania chron.	6th July, 1876	Chok. Diarrhœa	do.	do.
21	36	do.	Good	do.	16th Feb., "	Feb. Remit.	do.	do.
109	25	do.	Delicate	do.	4th August, "	Genl Debility	do.	No.
70	32	do.	Weak	Epilepsy	24th Oct., 1873	Enteritis	do.	Yes.
3	53	do.	Sickly	Mania chron.	1st August, 1872	Genl. Debility	do.	No.
118	32	Female	do.	do. acute	4th Sept., 1875	do	do.	Yes.
124	25	do.	Weak	do. chron.	21st Oct., 1876	Debility	do.	do.
33	21	Male	Good	Mania	29th August, 1874	do.	do.	do.
34	40	do.	Weak	Mania chron.	19th Sept., 1866	Cong. Apoplexy	do.	do.
126	62	do.	Emaciated	Dementia	23rd Oct., 1875	Old age and Debility	do.	do.
119	25	do.	Delicate	Mania chron.	14th Sept., 1876	Diarrhœa	do.	do.
96	37	do.	Good	Mania	3rd July, 1875	do.	do.	do.
8	19	do.	Weak	do.	19th January, 1876	do.	do.	do.
179	55	do.	Good	Mania chron.	11th March, 1869	do.	do.	No.
41	37	do.	Debilitated	Epilepsy	12th Oct., 1874	do.	do.	do.
40	31	Female	Good	do.	16th May, 1876	Epilepsy	do.	Yes.
18	20	Male	Indifferent	Mania chron.	7th March, 1877	Dysentery	do.	do.
5	42	do.	Good	do.	19th January, 1876	Debility	do.	No.
19	21	do.	Weak	Mania	16th Feb., "	Dysentery	do.	Yes.
4	26	do.	Good	Mania chron	19th January, "	Diarrhœa	do.	No.
124	65	do.	Weak	do. Rect.	28th August, 1868	Old age and Debility	do.	do.
159	50	Female	Good	do. chron.	23rd " 1862	Debility	do.	do
133	34	Male	do.	do.	23rd Nov., 1876	Apoplexy	do.	Yes.
49	40	do	Weak	Imbecility	23rd March, 1860	Diarrhœa	do.	do.
49	26	do.	Emaciated	Mania chron.	29th June, 1876	do.	do.	do.
110	56	do.	Sickly	do.	7th August, "	do.	do.	do.
89	48	Female	Good	do.	5th March, 1866	Dysentery	do.	do
135	31	do.	Emaciated	do.	24th Oct., 1876	Chron. Diarrhœa	do.	do.
38	42	Male	Good	Imbecility	22nd April, 1858	Diarrhœa	do.	do.
27	25	Female	Weak	Dementia	27th March, 1877	do.	do.	do.
84	35	do.	do.	Mania chron.	11th April, 1875	do.	do.	do.
[illegible]	[illegible]	do.	Good	Dementia	14th Sept., "	do.	do.	do.

Number of Deceased on Register.	Age of Deceased	Sex of Deceased	Bodily Condition when admitted.	Form of Mental Disorder.	Date of Admission.	Cause of Death.	State whether a Coroner's Inquest was held and what was the Verdict	State whether a Post Mortem Examination was held.
108	18	Male	Sickly	Mania chron.	2nd May, 1877	Diarrhœa	No.	Yes.
25	56	Female	Weak	do	4th August, 1876	do.	do.	do.
192	60	do.	Good	Mania	3rd Oct., 1855	do.	do.	do.
192	40	Male	do.	Mania chron.	7th April, 1869	Inf. of Liver.	do.	do.
8	18	do.	Weak	do.	25th January, 1877	Consumption	do.	do.
81	60	Female	Sickly	do	4th Sept., „	Old age and Diarrhœa	do.	No.
35	35	do.	Emaciated	do.	1st May, „	Diarrhœa and General Debility	do.	Yes.
4	45	do.	do.	do.	27th Dec., 1876	Chron. Diarrhœa	do.	No.
105	40	Male	do.	Mania	17th August, 1875	do.	do.	do.
105	60	do	Good	Mania chron.	12th Dec., 1869	do.	do.	do.
52	50	do.	Debilitated	do.	13th July, 1877	Diarrhœa	do.	do.
155	38	Female	do.	Mania	18th Oct., 1876	General Debility and Diarrhœa	do.	Yes.
46	56	do.	do.	do.	13th June, 1877	do.	do.	No.
83	65	do.	do	Rect. Mania	25th May, 1876	Debility	do.	do.
12	31	Male	do.	Mania chron.	9th Feby., 1877	General Debility	do.	do.
49	35	Female	Good	do.	2nd July, „	Contd. Fever	do.	Yes.
73	18	Male	Emaciated	Mania	27th August, „	General Debility and Diarrhœa	do.	No.
82	66	do.	Debilitated	do	5th Sept., „	do.	do.	do.
65	28	do	Emaciated	do.	4th August, „	Dysentery acute	do.	do.
39	31	do.	Good	Hom. Mania	13th May, 1876	Chron. Brights Disease	do.	Yes.
101	51	do.	do.	Mania	25th Oct., 1866	Feb. contd. with Dysentery acute	do.	No.
60	50	Female	Weak	Mania chron.	24th August, 1873	General Debility	do.	do.
55	51	Male	Good	Mania	14th March, 1864	Feb. contd. with Dysentery	do.	Yes
55	38	do.	do.	Rect. Mania	22nd Dec., 1874	Dysentery acute	do.	do.
34	18	do.	Sickly	Mania	22nd April, 1877	Apoplexy	do.	do.
102	70	Female	Weak	Senile Dem.	1st July, 1876	Old age	do.	do.
70	45	do.	Emaciated	Imbecility	26th August, 1877	Fatty Degener. of Heart	do.	do.
101	35	Male	Good	Epilepsy	5th Oct., „	Suicidal Hanging	Yes; suicide by hanging.	do.
181	65	Female	Indifferent	Mania	13th March, „	Dropsy from Liver Disease	No.	do.
80	36	do.	Good	Hom. Mania	3rd Sept., „	Cong. Apoplexy	do.	do.
25	40	Male	do.	Mania	7th January, 1872	Chronic Liver Disease.	do.	do.
61	36	do.	Sickly	Mania acute	26th July, 1877	General Debility	do.	do.

SPACE AND ACCOMMODATION TABLE.

Description of Rooms.	The Number of such Rooms.	The Gross Cubic Space of all such Rooms.	The Gross Superficial Area of all such Rooms.	The Average Amount of Cubic Space available for each Patient.	Average Temperature. Winter.	Average Temperature. Summer.	The Amount of Window Space.
Dormitories	20	112,500 feet	7,500 feet	595·2 feet			795 feet.
Day Rooms and Corridors used as Day Rooms	15	182,140 feet	11,767 feet	963·7 feet	...	...	Protected by rails.
Single Rooms	24	29,952 feet	2,304 feet	1248 feet			297 feet.
Temporary Wards	2	53044·874 feet	1,257·714 feet	884 feet	...	...	...

What is the source of the water supply; the quality of the water; and the amount of water available for each patient every day?—Water is supplied from five wells situated on the Asylum grounds. These are provided with pumps and leaden pipes to carry the water to the several wards. The water obtained from this source is soft, and pure, and abundant for the greater part of the year; and is used freely by the patients. The water for drinking purposes is filtered through silicated carbon filters and through the ordinary earthen chatties used in this country.

What is the number of (I.) Lavatories?—Ten.
(II.) Baths?—Nine.
(III.) Latrines?—Nine.

What is the system of sewerage?—The sewage is carried off in drains, partly tubular and partly open, which are flushed daily by the water from the bath-rooms, and by pure water from a reservoir built for the purpose, and which is filled as required from time to time. The sewage, after passing into a cess-pool, is carried from it to the back of the Asylum grounds. The dry-earth system is still in operation in the latrines, and no inconvenience has yet arisen from this method of sewage disposal. The scavenging arrangements continue the same as in former years.

Question II.—(Management.)

RESTRAINT.

Restraint.	Seclusion under Lock and Key.	Restraint by Attendants.	Mechanical Restraint.
The number of times resorted to —	480	None.	None.
The number of persons subjected to —	39	None.	None.
The greatest duration of, in any single instance —	1 month	None.	None.

In reference to the above Table, state :—

I. By whose authority patients are restrained ?—The Medical Officer in charge.

II. What kinds of mechanical restraint are in use ?—None.

III. Whether any, and if any, how many cases of cruelty by attendants to patients have been brought to the notice of the proper authority, and what was the result in each.—None.

IV. What was the number of cases of injury to patients,

(I.) By themselves ?—One; committed suicide by hanging.

(II.) By other patients ?—None.

(III.) By attendants ?—None.

OCCUPATION.

State the extent of

		ACRES.	R.	P.	
(I.)	The airing courts	0	3	27	Belonging to the Asylum.
(II.)	And other grounds	35	3	33	

Are the patients, as a rule, given daily exercise, their health permitting ?—Yes.

Are they confined to airing courts, or allowed to walk in other grounds, and sent beyond the Asylum ?—Allowed to walk about the grounds of the Asylum, and twelve of them are taken out for a drive every evening for a couple of hours.

Are any means taken to amuse the patients, or to induce them to amuse themselves ? Detail them.—The patients amuse themselves frequently with music and dancing, musical instruments being provided for them. Cricket and other games form their amusement on the playground every evening, and they find agreeable means of diversion in their wards during the day by card-playing, draughts, native games with counters and cowries, and bagatelle.

How many religious services were held in 1877 ?—There were fifty-two services held by a Colonial Chaplain in English, Sinhalese and Portuguese, and the Buddhist services were held as in former years.

What was the average attendance ?—The average attendance of the former services was twenty, and that of the latter thirty.

In what building, and how many could it contain ?—Workshop; about one hundred.

Give the Daily Average Number of Patients who were employed in 1877.

Distinguishing the Sexes.	Specifying the character of the Employment.		
	Agriculture and Gardening.	Trade.	Household Work, drawing Water, &c.
Males —	13	16	30
Females —	9	11	18

Question III.—(Diet.)

Append the Dietary Table.

Question IV.—(Inspection.)

Divide the Patients in the Asylum into the following classes:—

Classes.	Males.	Females.
(I.) Maniacal and Dangerous — —	113	60
(II.) Quiet Chronic — — —	26	20
(III.) Melancholy and Suicidal — —	3	0
(IV.) Idiotic, Paralytic, Epileptic — —	34	17
TOTAL—	176	97

Give the number of Visits of Inspection paid to the Asylum in 1877.

Distinguishing those Visits in which all Patients were seen and every part of the Building visited, from Visits of Partial Inspection	And stating the Official Position of the Visitors.							
	By the Governor or Colonial Secretary.		By a Government Inspector.		By Committee of the Governing Body.		By an Inspector specially charged to ascertain the continued Lunacy or otherwise of the Patients	
	By Appointment.	Of Surprise.	By Appointment.	Of Surprise.	By Appointment.	Of Surprise	By Appointment.	Of Surprise.
1. Complete Inspections —	None	Two, by Governor and Col. Secy.	One, by Prin. Cl. Med. Officer.	None	None	None	None	None
2. Partial Inspections —	None	None	None	Weekly P. C. M. O.	None	None	None	None

State how many reports of the following kinds have come under the notice of the Governor:—

(I.) Financial and Statistical (shewing, amongst other things, on what system the Money and Store Accounts are kept and audited.)

(II.) Reports by the person or persons charged with the immediate management of the Asylum.

(III.) Reports by an Official Inspector independent of the Governing Body of the Asylum.

} Monthly, Half-yearly, and Yearly Returns. Monthly and Annual Reports are forwarded by the Medical Officer in charge of the Asylum to the Principal Civil Medical Officer and Inspector-General of Hospitals.

Table of Diets for European Patients in Civil Hospitals.

Ordinary.	Low.	Spoon.
12 oz. Bread.	8 oz. Bread.	4 oz. Bread.
1 lb. Meat.	6 oz Sago.	4 oz. Sago.
1 oz. Sugar.	3 oz. Sugar.	3 oz. Sugar.
½ oz. Coffee, or ¼ oz. Tea.	1 pint Milk.	¼ oz. Tea.
½ oz. Salt.	½ oz. Coffee, or ¼ oz. Tea.	
2 cents for Curry Stuffs and Vegetables.		
8 oz. Rice.		
2 Eggs.		
1 gill Milk.		

3 lbs. Firewood for each Diet.

Meals.	Ordinary.	Low.	Spoon.
Breakfast ...	½ oz. Coffee, or ¼ oz. Tea. 4 oz. Bread. 1 oz. Sugar. 2 Eggs. 1 gill Milk.	2 oz. Sago } For 1 pint Jelly. ½ oz. Sugar } ½ oz. Coffee, or ¼ oz. Tea. ½ oz. Sugar.	4 oz. Bread. ¼ oz. Tea. 1 oz. Sugar.
Dinner ...	8 oz. Meat. 4 oz. Bread. ½ oz. Salt. ½*d.* for Curry Stuff and Vegetables. 4 oz. Rice.	2 oz. Sago. 1 oz. Sugar. 4 oz. Bread. ½ pint Milk.	2 oz. Sago. 1 oz. Sugar.
Supper ..	The same as Dinner.	The same as Dinner.	The same as Dinner.

Breakfast at 8 A.M. Dinner at 12 M. Supper at 5 P.M.

Table of Diets for Native Patients in Civil Hospitals.

Ordinary.	Low Diet.	Spoon Diet.
3 Hoppers, or Bread of same value. 12 oz. Meat, or 1½*d.* worth of Fish. ½ oz. Sugar. ½ oz Coffee. ½ oz. Salt. ½*d.* for Curry Stuff and Vegetables. 1¼lb. Rice.	4 oz. Sago, or Rice, or Arrowroot. 2½ oz. Sugar. ½ oz. Coffee. 8 oz. Bread. ½ pint Milk.	4 oz. Bread. ½ oz. Coffee. 4 oz. Sago. 2½ oz. Sugar.

3 lbs. Firewood for each Diet.

Meals.	Ordinary.	Low.	Spoon.
Breakfast...	½ oz. Coffee. ½ oz. Sugar. 3 Hoppers, or equivalent in Bread.	4 oz. Bread. ½ oz. Coffee. ½ oz. Sugar.	4 oz. Bread. ½ oz Coffee. ½ oz. Sugar.
Dinner ...	10 oz. Rice. 6 oz. Meat. ½*d.* Curry Stuff and Vegetables. ½ oz. Salt.	2 oz. Sago. 1 oz. Sugar. 2 oz. Bread. ¼ pint Milk.	2 oz Sago. 1 oz. Sugar.
Supper ..	The same as Dinner.	The same as Dinner.	The same as Dinner.

Breakfast at 8 A.M. Dinner at 12 M. Supper at 5 P.M.

HOSPITAL RETURNS FOR THE YEAR 1877.

QUESTION I.

Hospitals.	Number remaining in Hospital at the beginning of the year 1877.	Number admitted during the year 1877.	Daily Average in Hospital during the year 1877.	Attendants. Nurses, doing no other duty. Day Nurses.	Attendants. Nurses, doing no other duty. Night Nurses.	Attendants. Servants partially or not at all employed as Nurses. Not Nurses.	Attendants. Servants partially or not at all employed as Nurses. Partial Day Nurses.	Attendants. Servants partially or not at all employed as Nurses. Partial Night Nurses.	Patients Discharged. Cured.	Patients Discharged. Relieved.	Patients Discharged. Not improved.	Number who died in 1877.	Average Stay of those. Died in 1877.	Average Stay of those. Discharged.	Average Stay of those. Remaining at the end of 1877.	Specify the longest time for which any one Inmate has stayed.
													days.	days.	days.	
WESTERN PROVINCE																
Merchant Seamen's, Colombo.																
Males	...	85	5·22	Only one nurse (female) for day and night duty.		One cook; and a cooly, two males for day & night duty.			75	...	...	5	20·4	25·36	22·2	152 days, a case of Syphilis.
Females		..	..						...	...	...	...	...	...	...	...
General Hospital, Colombo.																
Males	90	3214	128·36	7			14		2677		11	498	15·78	45·36	25·53	280 days, a case of Paralysis.
Females	5	293	37·44	5			1		91		...	166	10·16	46·85	22·12	272 days, a case of Iritis.
Leper Hospital, Hendala.																
Males	86	79	94·23	...	...	..	8		16	15	26	17	138	96	295	365½ days.
Females	10	11	12·77	...	...	..	1		3	2	1	5	112	206	280	
Panadure.																
Males	5	175	11·04	..	...	2	1		155	4	2	12	9·91	21·87	12	Psoriasis, 111 days.
Females	...	32	1·72	1		..	..	...	27	1	...	2	12	21·2	11	Ulcus, 79 days
Kegalla.																
Males	16	432	18·97	1		1	3		305	67	13	47	10	18	11	147 days.
Females	...	105	6·10	1		...	..	...	61	17	3	15	10	27	11	54 days.
Ratnapura.																
Males	9	767	31·78	3		4	...	..	578	...	...	161	9·70	15·69	26·1	155 days.
Females	3	124	4·52	1		...	...	..	94	...	...	26	6·84	13·96	22·8	
Negombo.																
Males	55	1032	66·75	...	...	6	...	...	935	...	...	80	4·62	55·94	6·19	292 days, a case of Paralysis.
Females	12	292	18·59	...	...	2	...	...	266	...	...	18	1·45	16·43	·71	195 days, do.
NORTH-WESTERN PROVINCE.																
Kurunegala.																
Males	57	1286	69·28	5		6	...	...	739	219	157	151	13·01	17·65	25·05	258 days, a case of Genl. Debility
Females	21	291	14·20	1		..	...	...	164	82	26	27	14·07	16·91	41·09	169 days, a case of Ulcer.
Puttalam																
Males	28	476	34·078	2		2	...	...	452	...	...	30	17·13	17·257	24	189 days, Ulcus.
Females	8	99	4·202	1		...	...	..	96	...	...	7	13·5	14·65	4	99 days, Parangi.
Chilaw.																
Males	10	110	9·860	2		1	...	...	80	21	...	5	·0602	8·3998	1·4	137 days.
Females	11	41	5·753	1		1	...	...	23	6	...	2	·227	5·244	·282	139 days.
SOUTHERN PROVINCE																
Galle.																
Males	39	1173	57	..		7	...	...	821	215	30	87	15·3	12	21·7	142 days.
Females	15	350	21	4	...	...	...	.	250	54	8	34	19·5	13·2	12	178 days.
Matara																
Males	5	504	28·12	4	...	3	...	...	346	75	18	46	16·56	21	11·58	219 days, a case of Parangi.
Females	5	250	13·25	1	...	...	...	...	174	38	9	27	14·56	11·56	16·85	205 days, a case of Ulcer.
Hambantota.																
Males	7	191	9·23	2		...	...	...	168	10	...	7	15·7	11·1	58·5	365 days.
Females	...	6	·02	...	...	...	...	...	4	...	1	1	9	12·3	28	28 days.
Tangalla.																
Males	...	109	6·74	..	...	1	..	...	50	35	16	...	...	22	8	105 days.
Females	...	17	1·80	...	...	1	...	..	4	9	.	...	...	38	44	99 days.

QUESTION I.—*continued.*

Hospitals.	Number remaining in Hospital at the beginning of the year 1877.	Number admitted during the year 1877.	Daily Average in Hospital during the year 1877.	Attendants. Nurses, doing no other duty. Day Nurses.	Night Nurses.	Servants partially or not at all employed as Nurses. Not Nurses.	Partial Day Nurses.	Partial Night Nurses.	Patients Discharged. Cured.	Relieved.	Not improved.	Number remaining at the end of the year 1877.	Average Stay of those Remaining at the end of 1877.	Discharged.	Remaining at the end of 1877.	Specify the longest time for which any one Inmate has stayed.
													days.	days.	days.	
Eastern Province.																
Trincomalee.																
Males	17	314	18 $\frac{33}{365}$	...	...	...	2	...	274	8	3	23	32 $\frac{1}{3}$	17 $\frac{131}{157}$	32 $\frac{25}{29}$	363 days, a case of Paralysis.
Females	3	75	4 $\frac{19}{365}$	...	...	...	1	...	67	1	1	3	92 $\frac{2}{3}$	18	23 $\frac{1}{3}$	199 days, do.
Batticaloa.																
Males	26	403	25	...	...	...	2	2	391	...	..	15	37·26	20·079	31·26	219 days, a case of Chronic Rheumatism in the person of a lame man.
Females	2	19	2	1	1	...	...	..	15	..	..	1	7	16	24·6	
Northern Province																
Mullaittivu.																
Males	17	225	25·42	..	...		2	..	47	141	8	8	10·125	10·865	29·285	158 days.
Females	8	95	11·33		...	...	1	...	18	58	6	1	18	43·5	29·65	174 days.
Vavuniyá-Vilaykulam.																
Males	10	257	15·2	Two male attendants and one female attendant night and day.					232		...	19	9·94	22·51	17·38	3½ months.
Females	2	76	4·065						72		...	4	10·75	20·1	13·20	4½ months.
Central Province.																
Kandy.																
Males	128	2843	132·42	..	1	6	8	7	1498	599	56	621	11·23	17	24·82	Ulcer, 210 days.
Females	16	502	22·53	...	..				223	101	19	134	13·41	15·21	30·19	Diarrhœa, 97 days.
Gampola.																
Males	27	1365	52·16	4	4	1	1	2	1013		5	337	13·14	13·75	16·49	163 days.
Females	4	290	12·47	1	1	..		...	192		4	90	12·61	15·74	25·45	154 days.
Budulla.																
Males	39	778	31·90	...	...	2	3		549	88	13	137	12·2	14·2	24·7	174 days.
Females	8	96	3·31	..	...	...	1		46	11	2	39	6·6	15·2	8·3	57 days.
Mátalé.																
Males	23	1045	28·37	3		4	...	1	660	8	2	368	10·87	16·09	8·77	241 days, a case of Chronic Ulcer of the leg.
Females	6	238	9·11	1		...	..	..	106	2	...	113	10·93	19·35	5·36	135, a case of Chronic Ulcer of the leg.
Nuwara Eliya.																
Males	4	254	12·01	...	...	...	1		164	17	2	56	9·83	20·36	7·89	81 days.
Females	...	36	1·40	...	...	...	1		7	2	0	24	9·04	26·66	13·66	61 days.

QUESTION II.

Give the Name or Number of each Ward.	Length in feet.	Breadth in feet.	Height in feet.	Number of Beds assigned to the Ward	Amount of cubic space available for each Patient for the average number of Patients in the Ward.	The greatest number of Patients in the Ward at any one time during the year.	Windows and Ventilating Openings. Total area in square feet.	Area available of opening in square feet.	Connection of the Privy with the Ward. If Privy in Ward.	If leading out of Ward.	Is there any Sink or Drain opening in Ward? Trapped?	Untrapped?	Remarks.
Western Province.													
Merchant Seamen's, Colombo.													
1. General Ward	62·5	22·2	21	24	7215	13	...	201·72	None	None	None	None	
2. General Ward	18·6	22·2	21	6				50·54	"	"	"	"	
3 Accident Ward	16·8	15·0	15·6	4	1937·50	1	...	50·55	"	"	"	"	

QUESTION II.—*continued.*

Give the Name or Number of each Ward	Length in feet.	Breadth in feet.	Height in feet.	Number of Beds assigned to the Ward.	Amount of cubic space available for each Patient for the average number of Patients in the Ward.	The greatest number of Patients in the Ward at any one time during the year.	Windows and Ventilating Openings. Total area in square feet.	Windows and Ventilating Openings. Area capable of opening in square feet.	Connection of the Privy with the Ward. If Privy in Ward.	Connection of the Privy with the Ward. If leading out of Ward.	Is there any Sink or Drain opening in Ward? Trapped?	Is there any Sink or Drain opening in Ward? Untrapped?	Remarks.
Western Province.													
General Hospital, Maradana													
1. Surgical Female	53·6	19·11	19·3	18	1281·8	18	201	22	None	None	None	None	
2. Medical do. ...	60·9	19·11	19·3	16	1663·57	16	232	21	"	"	"	"	
3. Surgical Male	65	19·11	19·3	20	1384·44	20	232	21	"	"	"	"	
4. Do. do. ...	48·10	19·11	19·3	16	1248·13	16	201	22	"	"	"	"	
5. Accident do. .	39·5	20·4	19·3	10	1714·11	10	187	17	"	"	"	"	
6a. Medical do. ..	46·5	20·4	19·3	12	1858·3	12	187	17	"	"	"	"	
6b. Surgical do. ...	40·5	20	19·3	10	1696·22	10	187	17	"	"	"	"	
7. Lying in Female	28	20	19·3	9	2695	6	300	25	"	"	"	"	
8. General do. ..	68·4	20	19·3	18	1547·52	18	119	14	"	"	"	"	
9. Lock do. ..	28	20	19·3	10	1347·5	10	119	14	"	"	"	"	
10. Medical Male ..	21	20	19·3	6	1617	6	118	13	"	"	"	"	
11. Do. do. ..	64·3	20	19·3	18	1455·05	18	350	34	"	"	"	"	
12. Diarrhœa do. ..	83	19·7	19·3	22	1489·95	22	378	35	"	"	"	"	
13. Do. do. .	11·8	19·7	19·3	2	2198·5	2	78	9	"	"	"	"	
Leper Hospital, Hendala.													
Male Wards { No. 1 ...	41·6	20	20·9	16	1076·4	16	43	350	None	None	None	None	
Male Wards { No. 2 .	47·0	20	20·9	18	1083·5	18	46	376	"	"	"	"	
Male Wards { No. 3 ..	41·6	20	20·9	16	1076·1	16	43	350	"	"	"	"	
Male Wards { No. 4	30·6	20	20·9	12	1054·7	12	33	279	"	"	"	"	
Male Wards { No. 5 ...	52·6	20	20·9	17	1281·6	17	54	438	"	"	"	"	
Female Wards { No. 6 ..	34·0	15	13·0	6	1072·5	6	84		"	"	"	"	
Female Wards { No. 7	29·0	15	13·0	5	1141·0	5	68		"	"	"	"	
European Ward No. 8 . .	40·8	19	15·4	11	683·2	11	—	110½	"	"	"	"	
Temporary Ward No. 9 ..	40	20	11	14	888	14	327	327	"	"	"	"	This has been pulled down.
Pánadure.													
Male Ward No. 1	12·6	12	16	2	1200	3	60·875	60·875	No	No.	No	No	
Do. No. 2 .	12·6	12	16	2	1200	3	60·979	60·979	"	"	"	"	
Do. No. 3 .	13	12	16	2	1248	3	64·083	64·083	"	"	"	"	
Do. No. 4 ..	12·6	12	16	2	1200	3	60·708	60·708	"	"	"	"	
Female Ward ..	12·6	12	16	2	1200	3	60·541	60·541	"	"	"	"	
Kégalla.													
1. Medical Ward ..	16	15	8½	4	1560	4	52	—	No	—	No	No	
2. Surgical Ward ..	16	15	8½	4	1560	4	49	—	"	—	"	"	
3. General Ward	33	18½	13¼	10	1460	10	97	50	"	—	"	"	
4. Diarrhœa Ward...	31	16	8½	8	1074	8	83	—	"	—	"	"	
5. Female Ward ...	31	15	15½	8	1548	8	122	40	"	—	"	"	
Ratnapura.													
1. Medical Ward ..	42·6	20·8	20	12	1463	14	467	467	None	—	None	None	
2. Surgical Ward ...	42·6	20·8	20	12	1463	14	467	467	"	—	"	"	
3 Female Ward ...	21·6	20·8	20	6	1110	9	220	220	"	—	"	"	
4. Temporary Ward	43·5	21	11	16	837	16	333·32	333·32	"	—	"	"	
Negombo.													
1. Medical Ward .	42	20	20·5	12	1722	13	308		None	None	None	None	
2. Surgical Ward	42	20	20·5	12	1565	13	308		"	"	"	"	
3. Female Ward	21	20	20·5	7	956	10	172		"	"	"	"	
4. General Ward ..	42	21	20	16	1260	16	243	1670	"	"	"	"	
5. General Ward ..	42	21	20	16	1356	16	243	1170	"	"	"	"	
6. Temporary Female Ward ...	40·5	16·5	13·5	14	644	17	395		"	"	"	"	
7. Temporary Male Ward ...	54	16·5	16·5	20	816	19	616		"	"	"	"	
8. Do. do. .	45	18	18	16	2082	14	672		"	"	"	"	
North-Western Province.													
Kurunégala.													
Male:													
1. Medical Ward	36	20	20	14	1358·49	16	404	404	None	—	None	None	
2. Medical Ward ...	36	20	20	14	1320·40	16	404	404	"	—	"	"	
3. Surgical Ward ..	36	20	20	14	1358·49	16	404	404	"	—	"	"	
Female													
4. Medical Ward ...	20¾	20	20	10	1169·01	11	406	406	"	—	"	"	
5. Surgical Ward ..	20¾	20	20	10	1169·01	11	406	406	"	—	"	"	
6. General do. No. 1	50	22	16·3	18	1254·38	21	951	951	"	—	"	"	
7. General do. No. 2	50	22	16·3	18	1254·38	21	951	951	"	—	"	"	
8. Diarrhœa Ward .	24	20	20	12	1097·14	13	406	406	"	—	"	"	

QUESTION II.—*continued.*

Give the Name or Number of each Ward.	Length in feet.	Breadth in feet.	Height in feet.	Number of Beds assigned to the Ward.	Amount of cubic space available for each Patient for the average number of Patients in the Ward.	The greatest number of Patients in the Ward at any one time during the year.	Windows and Ventilating Openings. Total area in square feet.	Windows and Ventilating Openings. Area capable of opening in square feet.	Connection of the Privy with the Ward. If Privy in Ward.	Connection of the Privy with the Ward. If leading out of Ward.	Is there any Sink or Drain opening in Ward? Trapped.	Is there any Sink or Drain opening in Ward? Untrapped.	Remarks.
Puttalam.													
Medical Ward ...	30	20	16·3	8	1200	8	78	140	None	None	None	None	The temporary ward was pulled down in September. Two new permanent wards are in the course of construction.
Female Ward	20	20	16·3	8	800	8	81	154	"	"	"	"	
Diarrhœa Ward ...	20	20	16·3	8	800	8	81	154	"	"	"	"	
Temporary Ward ..	20	15	16·3	4	600	8	81	154	"	"	"	"	
Chilaw.													
1. Medical Ward ..	15	15	11·9	4	1321¼	2	58	...	No	Yes	No	No	
2. Surgical Ward ...	15	8	11·9	4	705	2	56		"	"	"	"	
3. General Ward ..	15	15	11·9	4	1321¼	2	55		"	"	"	"	
4. Temporary Ward.	56	24	10·8	20	1194·6	16	...	596	"	"	"	"	
5. Temporary Ward.	40	24	10·4	10	1653	8		484	"	"	"	"	
Southern Province.													
Galle.													
Ground floor:													
1. General Ward..	36	20	15	10	1080	10	262	—	Nil				
2. Medical Ward...	36	20	15	10	1080	10	262	—	"				
3. Diarrhœa Ward.	42	20	15·6	12	1085	12	262	—	"				
4. General Ward..	27	20	15·6	8	1046¼	8	154	—	"				
5. Diarrhœa Ward.	39	20	15·6	12	1007½	12	268	—	"				
6. General Ward	36	20	15	10	1080	10	262	—	"				
7. Do. do. ...	36	20	15	10	1080	10	262	—	"	4	Nil	Nil	
Upper floor:													
8. General Ward..	36	20	15	10	1080	10	242	—	"				
9. Do. do. ..	22	20	15·6	6	1136⅔	6	154	—	"				
10. Special Ward ...	14	10	15·6	1	2170	1	50	—	"				
11. Do. do. ..	14	10	15·6	1	2170	1	50	—	"				
12. European Ward.	50	20	15·6	12	1291⅔	12	302	—	"				
13. Burgher Ward..	36	20	15·6	10	1116	10	262	—	"				
Mátára.													
1. Medical Ward ...	32	20	18·6	10	1691	10	296·3	224	None	—	None	None	
2. Surgical Ward ..	32	20	18·6	10	1691	10	296·3	224	"	—	"	"	
3. General Ward ..	20	20	18	6	1800	6	267·5	208	"	—	"	"	
4. General Ward ..	102	19	9	24	872	24	706·1	440	"	—	"	"	
5. Dysentery ward consisting of four single wards.	10	10	8	1	800	1	140	115	"	—	"	"	
6	10	10	8	1	800	1	140	115	"	—	"	"	
7.	10	10	8	1	800	1	140	115	"	—	"	"	
8	10	10	8	1	800	1	140	115	"	—	"	"	
Hambantota.													
1. Medical Ward ..	25·6	15·3	12	6	1166	9	112	128	No	—	None	None	
2. Surgical Ward ..	25·6	15·3	12	6	1166	6	112	128	"	—	"	"	
3. Female General...	20	12	12	4	1440	2	120	132	"	—	"	"	
Tangalla.													
1. Medical Ward ...	16	14	10	4	746	4	42	50	No	Yes	No	No	
2. Surgical Ward ...	16	14	10	4	746	4	42	50	"	"	"	"	
3. General Female...	20	12	12	4	1540	4	120	132	"	"	"	"	
Eastern Province.													
Trincomalee.													
Males:													
1. General Ward ..	52	21	15·4	15	1092·4	15	353	353	No	—	None	None	
2. Surgical Ward ..	18	21	15·4	4	1417·4	4	74	74	"	—	"	"	
Females:													
3. General Ward ..	52	21	15·4	12	4095·4	10	353	353	"	—	"	"	
Batticaloa.													
Male:													
1. Medical Ward ..	20	20	16 71/100	8	835·5	8	344	344	None	None	None	None	
2. Surgical Ward ..	30	20	17¼	10	1035	10	312	312	"	"	"	"	
3. Female Ward ..	20	20	16 71/100	8	3342	5	344	344	"	"	"	"	
Northern Province.													
Mullaittivu.													
1. Male Med. Ward	32	19	13½	10	645·689	10	367·6	35·7½	—	Two temporary privies out of wards.	—	—	
2. Surgical Ward ...	23½	19¼	13	10	462·604	10	323·6	34·6	—		—	—	
3. Female Ward .	40¼	16 7/12	11½	16	677·254	16	619·4	—	—		—	—	

continued over.

QUESTION II.—*continued.*

Give the Name or Number of each Ward.	Length in feet.	Breadth in feet.	Height in feet.	Number of Beds assigned to the Ward.	Amount of cubic space available for each Patient for the average number of Patients in the Ward.	The greatest number of Patients in the Ward at any one time during the year.	Windows and Ventilating Openings. Total area in square feet.	Windows and Ventilating Openings. Area capable of opening in square feet.	Connection of the Privy with the Ward. If Privy in Ward.	Connection of the Privy with the Ward. If leading out of Ward.	Is there any sink or drain opening in Ward? Trapped?	Is there any sink or drain opening in Ward? Untrapped?	Remarks.
Varaniyá-Vilankulam.													
1. Male General ..	11½	19¼	13½	3	966	3	115·51	76·51	No	—	None	None	
2. Male General ..	22½	19¼	13½	6	958	6	231·02	153·02	"	—	"	"	
3. Female General.	22	16	13	5	1144	5	255 82	155·82	"	—	"	"	
CENTRAL PROVINCE.													
Kandy.													
1. Planters' Ward .	20	14 66	20· 5	4	1502 65	4	90	71·2	None	—	None	None	
2 European Ward	20	14·66	20· 5	4	1502 65	4	110·4	91·6	"	—	"	"	
3. Surgical Ward...	102	20	20· 5	28	1850·71	28	753·1	618 4	"	—	"	"	
4. Medical Ward...	62	20	20· 5	20	1271	20	544 9	448 6	"	—	"	"	
5. Diarrhœa Ward.	62	20	20 5	20	1271	20	544 9	448 6	"	—	"	"	
6. General Ward..	79	18	14· 5	22	937·22	22	495·4	422·11	"	—	"	"	
7. General Ward..	79	18	14 5	22	937 22	22	495 4	422·11	"	—	"	"	
8. Female Diarrhœa Ward ..	54	20	20· 5	16	1583 75	16	450 4	374·4	"	—	"	"	
9. Female Venereal Ward ...	21	20	20· 5	6	1435	6	220·8	182 2	"	—	"	"	
10. Female Gl. Ward	50	20	20· 5	16	1281·25	16	441·1	364·1	"	—	"	"	
11. General Ward...	20	14	13·75	4	962· 5	4	178·1	138·6	"	—	"	"	
12. General Ward....	20	14	13·75	4	962 5	4	178 1	138·6	"	—	"	"	
13. Segregation Ward	14 33	13 5	10 75	2	1039·79	2	20 2	14 2	"	—	"	"	
14. Temporary Ward	63· 5	20	13·75	20	875 12	20	648·5	584·5	"	—	"	"	
Gampola													
1. Planters' Ward	14	9¼	19	1	.	..	124	113					
2. European Ward	19	20	19	5	2422·8	5	196	170					
3. Medical Ward ..	42	20	19	12	1330	12	440	384					
4. Surgical Ward ..	42	20	19	12	1330	12	440	384					
5. Diarrhœa Ward...	42	20	19	12	1330	12	459	399	No	Yes	No	No	
6. Female Ward ...	42	20	19	12	1521·4	12	459	399					
7. Temporary Ward	40	19	11	12	..	...	504	506					
8. Temporary Ward.	40	20	13	12	...	..	488	488					
Badulla.													
1. Medical Ward ..	37	17	15	10	1347	12	399 2	251·6	—	Nil		—	
2. Do. ...	45	17	15	12	1434	14	496·7	204·3	—	"		—	
3. Surgical Ward ..	35	17	15.	10	1275	12	350·10	203·2	—	"		—	
4. Diarrhœa Ward..	30	13	9½	5	1235	7	214·10	123·10	—	"		—	
5. Do. Temporary Ward ..	22	12	10½	7	554	8	half	walls	—	"		—	A new female ward to accommodate about 15 patients is nearly completed.
6. Female Temporary Ward ..	21	12	10½	6	882	7							
Mátalé.													
1. Medical Ward ...	42·5	20	19	12	1343	16	353·31	291·31	The latrines are distinct from the wards. There are covered passages however leading to them from the wards.				
2. Surgical Ward ...	42·5	20	19	12	1343	16	353·31	291 31					
3. General Ward ...	35·	20	19	10	1662·6	12	285·96	237·96					
4. Female Ward .	35·6	20	19	10	1496·8	12	285·96	237·96					
5. Temporary Ward.	42·5	20	19	12	This ward contained no patients during the year, although it was completed before the end of the year.				None	None			
Nuwara Eliya.													
1. Medical Ward ...	32	18	12½	8	1051 69	10	576	168	No	No	None	None	
2. Surgical Ward ...	22	18	12½	6	875·48	8	396	112	"	"	"	"	
3. Female Ward ...	16½	15½	12½	4	2161·42	6	256	18	"	"	"	"	

(I.) What quantity of Water is available for each patient every day
What is the source of the Water Supply?
What is the quality of the Water?
(II.) Detail the arrangements as to Baths and Lavatories.
(III.) What is the system of Sewerage; and what the condition of the Privies?

ANSWERS TO QUESTION II.

Western Province.

Merchant Seamen's, Colombo.—For bathing and drinking the quantity is unlimited. For drinking purposes the water is obtained from a well in Skinner's Road, South, which also supplies a good portion of the town. It is pure in quality, free from saline and other admixture, and is always filtered before being used. There is a well in the hospital premises, the water of which is derived by percolation from the sea. It is saline and brackish, and unfit for drinking. This well supplies the baths, which consist of a large square room, with three wooden tubs filled by means of a pump attached to the well. There are side-drains on the ground floor of the hospital, which convey away the washings of the wards, kitchen and court-yard. No sewage matter is permitted to enter these drains. They are flushed by periodical showers of rain, and every day by means of the pump attached to the hospital well. There are two latrines, in which the dry-earth system is carried on, the contents being removed every night by cart. MacDougal's disinfecting powder is used to deodorize the excreta from dysenteric patients before removal from the wards. The floors of the latrines are daily washed with a solution of crude carbolic acid and water.

General Hospital, Maradana.—Unlimited. Four wells. The water is conducted through iron pipes, leading from these wells to two filters, Danchell's and Captain Crease's, erected at a convenient distance from the ward. Clear and soft. Cemented baths built in each lavatory, to which water is conducted through iron pipes leading from the wells. There are also appliances for warm baths. Dry-earth system. Close stool buckets are placed for helpless patients, chiefly in the diarrhœa wards. Portable urinals for night use are constructed on the outer verandahs of each ward. The filth from dry-earth latrines is carried away every night by a contractor and buried at a great distance from the hospital.

Leper Hospital, Hendala.—Any quantity. A well and a river. The water in the well is good. Drinking water is always filtered. But the water in the river, during certain seasons, especially when the sea rises with the tide, mixes with sea water, and turns brackish or saline. The able among the patients bathe in the river; while to the weak and sickly, water is brought from the river and generally warmed; and these bathe in tubs. Sewerage is conducted by means of drains. The privies are worked on the dry-earth system and are kept clean and inodorous, the filth being removed regularly every morning and buried at a distance.

Pánadure.—*Ad libitum.* A well in the premises. Good. For drinking purposes it is filtered through charcoal and sand placed in alternate layers in an earthen chatty; the filtering media being frequently changed. There are two lavatories for males and females. Two cemented tubs are in each lavatory for bathing purposes, water being conveyed to them by means of an iron pipe, leading from a cistern close to the well. Dry-earth system. There are two latrines situated at convenient distances from the wards, and in each are placed three zinc buckets with dry-earth in them; the buckets are cleansed twice daily, and their contents buried far away from the hospital.

Kégalla.—Unlimited. Two wells in the grounds adjoining the hospital. Good, especially as it is filtered before use. The patients bathe in the stream close to the hospital. Tubs placed in a covered shed next to the kitchen, are available for warm baths. The sewage of the hospital is buried on hilly ground about a quarter of a mile to leeward of the building. There are no privies. There are two latrines for the male and female patients, respectively, conducted on the dry-earth system.

Ratnapura.—Unlimited. The river Kalugangа. Good and fit for drinking and for all other purposes. There is a bath-room divided into two compartments for males and females. The river runs past the hospital and those convalescents who desire to do so, bathe in it. When a warm bath is considered necessary, a tub is brought to the bedside of the patient and every precaution is taken to prevent any cold draughts playing on him immediately after it. Surface system of drainage obtains here. There are no privies. The latrines are conducted on the dry-earth system. Two are of brick—one for males and the other for females, and they are situated near to their respective wards. There is a third which is a temporary structure and is used by the patients of the temporary ward. All the latrines are daily attended to and kept in a satisfactory condition. They are all provided with a sufficient quantity of dry-earth and disinfecting powder.

Negombo.—*Ad libitum.* The wells within the hospital premises supply water for washing and bathing. For drinking and culinary purposes water is supplied from wells outside. The water in wells within the hospital premises is brackish. The drinking water is good in quality. It is carefully filtered before use. There are two lavatories, one for males and the other for females. Surface drains carry off rain water, &c. The latrines are on the dry-earth system. There are two for males and one for females. The contents are removed daily.

North-Western Province.

Kurunégala.—*Ad libitum.* The wells (three) in the hospital grounds. Clear, tasteless, odorless, soft, free from organic impurities and fit for drinking and cooking purposes. The water is always subjected to filtration in the usual charcoal and sand filters. There are two lavatories, one for the male patients which consists of six separate cemented baths, and another for female patients which consists of two tubs, filled by pump, from an adjoining well. The convalescents bathe in the stream that flows past the north of the hospital grounds. The dry-earth system. The sewage is buried in a plot of low-lying ground, subject to submersion, to the west of the hospital grounds. There are two latrines, one for males with four seats, and another for females with one seat only.

Puttalam.—Ample for all drinking purposes, but not for bathing. From the Government well at Chenakuduruppu. Mere drainings of the soil, pleasant but sedimentary. The chatty filters, ordered by the Principal Civil Medical Officer and Inspector General of Hospitals, work satisfactorily. Two new bath rooms were erected at the end of the year, one for males and one for females, each supplied with a furnace for heating water. The dry-earth system prevails in the hospital. There are no privies but latrines, one for males and one for females.

Chilaw.—About one gallon of filtered water is available for drinking purposes, and twenty-five gallons for bathing. Wells. Fresh and good. The water for drinking is filtered. Tubs are placed in an enclosed shed; these tubs are filled with water taken from the hospital wells by the attendants. Rubbish, &c., is daily collected and burnt. The dry-earth system is adopted in the latrines, and the contents of the buckets removed to a distance and buried daily.

Southern Province.

Galle.—Unlimited. A well. Indifferent. The water is filtered by means of three chatties, which are supported on a stand and provided with perforated covers; each chatty has alternate layers of charcoal and gravel, and the perforations are filtered with a bit of sponge, allowing the water to filter down to the last chatty, from which the patients are supplied with an unlimited quantity of water. Each ward is provided with a filter stand. There are

five bath-rooms for males and three for females in each of which there is a bath, in good order and condition. The system of sewerage quite perfect. The barrel drains are complete, and are supplied with openings at certain intervals to admit of the drains being flushed and mopped out every morning. Latrines are constructed on the dry-earth system, and are found to answer well. They are well kept, and the contents of the buckets are treated with McDougall's disinfecting powder, and removed for burial.

Mâtara.—The supply is unlimited. A well sunk on the premises with a force pump attached. The quality is good. Before being distributed to the sick for drinking it is filtered by means of chatty filters filled with sand pebbles and charcoal, one for each ward. There is a bath room attached to each latrine, (male and female), in which there is a well sunk, but they are not used. The patients bathe, in a portion of the river adjoining the hospital, which is enclosed for the purpose. Open surface drains leading into the river. The latrines are conducted on the dry-earth system, which is enforced by constant supervision, and answers admirably.

Hambantota.—For drinking and culinary purposes about ten gallons a day. A well at the foot of a sandhill. Fresh, clear, soft, and free from saline impurities. The water is filtered before it is used. A bath-room was constructed during the year. Patients who can walk resort to a tank at a short distance from the hospital. Surface drains. The latrines are on the dry-earth system, and the boxes are removed and the contents buried twice daily.

Tangalla.—About two gallons. Water is procured from a well situated about 250 yards from the hospital. The quality of the water is not good. It is therefore always boiled and filtered before use. Patients bathe in a bath-room in the hospital premises. The water is taken from a well close to the hospital. The latrine is conducted on the dry-earth system. The filth is thrown into the sea.

EASTERN PROVINCE.

Trincomalee.—The quantity is unlimited. From a masonry-built spring well. Light, clear, and made use of after being filtered. A bath-room is attached to the latrines. A tub is placed which is filled every morning. Open drains. Dry-earth system carefully carried out.

Batticaloa.—Unlimited. A deep spring well in the hospital compound from which the water is raised and carried by hand labour for culinary and other purposes. The quality of the water is apparently transparent, fresh and pure; and agreeably to the instructions of Dr. Kynsey, is also filtered for drinking and hospital use. There are two different buildings to answer the purposes of baths and lavatories for the separate use of men and women without any communication with each other. They are respectively provided with number of wooden tubs, filled with water for bathing or washing. There is no regular system of sewerage; but the hospital being built on a comparatively elevated position, and having every facility for surface drains, on all sides to carry off the periodical monsoon rains, and keep the ground sufficiently dry and clean, even in wet weather, the necessity for a system of under ground drains is obviated. There are no privies; but the adoption of dry-earth system with latrines which have long superseded the former, keeps the latter in a satisfactory condition, without offensive effluvia.

NORTHERN PROVINCE.

Mullaittivu.—As much as required in the hospital premises. A well in the hospital premises. Brackish, being percolation from the neighbouring tanks, &c., but properly filtered for drinking purposes. There is no bath-room, but tubs are placed under a temporary shed and filled with water from the well for the use of the patients. There is no system of sewerage, but there are two temporary privies, one for males and the other for females; each of them has several partitions and a hole in each partition, emptying into one large hole into the earth.

Vavuniyâ-Vilankulam.—Not limited. Wells. Good, but thick and contains lime. Always used after filtration. No special baths or lavatories. Tubs are placed for the patients to bathe. Surface drains. Latrines are on the dry-earth system and are kept clean.

CENTRAL PROVINCE.

Kandy.—The quantity is unlimited. Water is obtained from a large well on the premises worked by a force pump, also from the Lunumadalawa stream, carried down by a surface drain or canal. Clean and soft, fit for all purposes, water for drinking being always filtered through charcoal and sand. There are two separate bath-rooms for the use of the European patients, and one for the male native patients. The bath-room, for females consists of three compartments having a tub in each. The water is raised by a force pump into a capacious cistern whence it is carried by leaden tubes to the lavatories of the female and European wards. Dry-earth system. The excreta are daily carted away by a mercantile firm, who use it as manure for coffee. The premises are always kept clean and free from smell.

Gampola.—The quantity of water is unlimited. A large and deep well with a pump attached to it. Clear, colourless, inodorous, soft, and free from organic impurities. For drinking purposes the water is filtered. Leading out of the wards under covered ways, there are bath-rooms furnished with tubs which are supplied with water by an arrangement of pipes communicating with a cistern which is fed by a pump from the hospital well. Masonry drains—some open and others covered—carry off rain and refuse water. The latrines are in use and they are conducted on the dry-earth system. They are always kept clean, dry and free from smell. Each of the latrines has a place set apart for preparing and storing dry-earth.

Badulla.—*Ad libitum.* Badulla-oya. Hard. Not very good. Has to pass through charcoal and pebbles in two filtering tanks, then boiled and again filtered through sand and charcoal in earthen chatties having perforations. Two bath-rooms with tubs, one for males and the other for females. The dry-earth system is effectually carried out. There are two latrines, one for males with six seats and the other for females with four seats.

Mâtalé.—Ample for all purposes. A spring a short distance from the hospital supplies the drinking water. That contained in the hospital well is used for washing purposes. During the dry season, however, water for all purposes has to be brought from the spring. That from the spring is sufficiently pure for drinking purposes, but is subject to filtration before the patients use it. There are three bath-rooms with tubs in them for the use of the male patients, and two similar ones for the use of the females. Sewage matters are buried in the jungle some distance from the hospital. The dry-earth system is in use in this hospital, and has been found to answer well. The latrines are in good order.

Nuwara Eliya.—The quantity of water is unlimited. A large stream that comes down the hill side at the back of the hospital. Good and wholesome. The water is filtered through sand and charcoal before it is used for drinking. There are two bathrooms, one for males and the other for females. Water is carried to them from the stream. Wooden tubs are placed in the rooms. The latrines are on the dry-earth system. They are daily cleaned out and the excreta buried at a distance from the hospital.

QUESTION III.

Give the number of Visits of Inspection paid to the Hospital during the year 1877.

Specifying the character of the Visit in respect to notice.	And stating the Official Position of the Visitors.		
	By the Governor or Colonial Secretary.	By a Government Inspector.	By the Official Visitors.
Western Province.			
Merchant Seamen's, Colombo.			
By Appointment	—	Half-yearly by the Principal Civil Medical Officer.	—
Of Surprise	—	Very frequently by the Principal Civil Medical Officer and Inspector-General of Hospitals, once a week or so.	The District Judge three times.
Civil Hospital, Maradána.			
By Appointment	Once by the Governor.	—	—
Of Surprise	Once by the Lieut.-Governor, and once by the Colonial Secretary.	Forty-eight times by the Principal Civil Medical Officer and Inspector-General of Hospitals.	—
Leper Hospital, Hendala.			
By Appointment	—	Four visits by the Principal Civil Medical Officer and Inspector-General of Hospitals.	One visit by the Government Agent.
Of Surprise	—	Three visits by the Colonial Surgeon.	—
Pánadure.			
By Appointment	Once by the Lieutenant-Governor.	Once by the Principal Civil Medical Officer and Inspector-General of Hospitals.	Once by the Assistant Government Agent.
Of Surprise	—	Twice by the Principal Civil Medical Officer, and three times by the Colonial Surgeon.	Twice by the Government Agent, and four times by the Assistant Government Agent.
Kégalla.			
By Appointment	—	5th October, 1877, by the Colonial Surgeon.	—
Of Surprise	—	27th October, 1877, by the Principal Civil Medical Officer, and Inspector-General of Hospitals; 23rd June, 1877, by the Colonial Surgeon.	Three visits by the Assistant Government Agent, and two by the District Judge of the station.
Ratnapura.			
By Appointment	—	—	—
Of Surprise	—	Once by the Principal Civil Medical Officer, &c., and once by the Colonial Surgeon.	Six times by the Assistant Government Agent, and twice by the District Judge.
Negombo.			
By Appointment	Once by the Lieut.-Governor.	Twice by the Principal Civil Medical Officer and Inspector-General of Hospitals; once by the Colonial Surgeon.	—
Of Surprise	—	—	Once by the Government Agent, thrice by the Assistant Government Agent.
North-Western Province.			
Kurunégala.			
By Appointment	—	—	—
Of Surprise	—	Four times by the Principal Civil Medical Officer and Inspector-General of Hospitals, and twice by the Colonial Surgeon, North-Western Province.	Three times by the Government Agent, North-Western Province.
Puttalam.			
By Appointment	—	—	—
Of Surprise	Once by Lieut.-Governor (the Hon'ble A. N. Birch), 28th August, 1877.	Two by the Principal Civil Medical Officer and Inspector-General of Hospitals (Dr. Kynsey), 6th April and 28th August, 1877.	One by F. R. Saunders, G.A., two by P. A. Templer, A.G.A., one by J. R. Morris, G.A.
Chilaw.			
By Appointment	—	—	—
Of Surprise	Once by the Governor.	Once by the Principal Civil Medical Officer and Inspector-General of Hospitals, once by the Colonial Surgeon.	Nine times by the District Judge, three times by the Assistant Government Agent, and once by the Government Agent.
Southern Province.			
Galle.			
By Appointment	—	16th February and 25th November, by the Principal Civil Medical Officer and Inspector-General of Hospitals, two.	—
Of Surprise	3rd September, by His Excellency the Governor once.	—	22nd September, by the Hon'ble Mr. Dias, Puisne Justice—one.
Mátara.			
By Appointment	—	Two by the Inspector-General of Hospitals.	Two, by Colonial Surgeon; one, by Assistant Government Agent.
Of Surprise	—	One by the do. do.	Six, by Colonial Surgeon; four, by Assistant Government Agent.
Hambantota.			
By Appointment	—	—	—
Of Surprise	—	One, by the Principal Civil Medical Officer; and two, by the Colonial Surgeon.	Four, by the Assistant Government Agent.

QUESTION III.—*continued.*

Give the number of Visits of Inspection paid to the Hospital during the year 1877.

Specifying the character of the Visit in respect to notice.	And stating the Official Position of the Visitors.		
	By the Governor or Colonial Secretary.	By a Government Inspector.	By the Official Visitors.
Tangalla.			
By Appointment	—	Principal Civil Medical Officer.	—
Of Surprise	—	Colonial Surgeon, twice; Principal Civil Medical Officer, once.	Assistant Government Agent, twice.
EASTERN PROVINCE.			
Trincomalee			
By Appointment	By Lieut.-Governor, 8th March, 1877.	Principal Civil Medical Officer, 8th March, 1877.	—
Of Surprise	—	Principal Civil Medical Officer, 20th January, 1877.	1st March, 1877, and 29th September, 1877, by R.W. D. Moir, Esq., Assistant Government Agent.
Batticaloa.			
By Appointment	—	—	—
Of Surprise	One, by the Lieut.-Governor and Colonial Secretary	One by Dr. Kynsey, Inspector-General of Hospitals and Principal Civil Medical Officer.	Four times by the Government Agent.
NORTHERN PROVINCE.			
Mullaitivu			
By Appointment	—	—	By the Government Agent and his Assistant on the 3rd February, 13th April, and 27th May, 1877.
Of Surprise	—	By the Colonial Surgeon on the 27th September, 1877.	—
Vavuniya-Vilankulam.			
By Appointment	—	—	Assistant Government Agent, Mannar, 26th June, 1877.
Of Surprise	—	Once, by the Colonial Surgeon.	Government Agent, Jaffna, 18th May, 1877.
CENTRAL PROVINCE.			
Kandy.			
By Appointment	—	—	—
Of Surprise	Two, by His Excellency the Lieut.-Governor.	Five visits by the Principal Civil Medical Officer and Inspector-General of Hospitals During the whole year the Colonial Surgeon visited the Hospital once or twice a week.	—
Gampola.			
By Appointment	—	—	—
Of Surprise	Two visits; one by His Excellency the Governor, and the other by the Lieut.-Governor.	Six visits; two by the Principal Civil Medical Officer and Inspector-General of Hospitals, and four by the Colonial Surgeon Central Province.	Once by the Hon'ble the Government Agent, Central Province.
Badulla.			
By Appointment	—	—	—
Of Surprise	One, by the Hon'ble the Colonial Secretary.	Once, by the Colonial Surgeon; once, by the Principal Civil Medical Officer and Inspector-General of Hospitals.	Once, by the Government Agent; thrice, by the Asst.-Government Agent; once, by the District Judge.
Matale.			
By Appointment	One by His Excellency the Governor; and one, by the Lieut.-Governor.	Two, by the Principal Civil Medical Officer; and two, by the Colonial Surgeon.	Three, by the Assistant Government Agent.
Of Surprise	—	—	One by the Police Magistrate; and one by the Assistant Government Agent.
Nuwara Eliya.			
By Appointment	—	—	—
Of Surprise	One.	Four.	—
	(Three, by the Principal Civil Medical Officer and Inspector-General of Hospitals; one, by the Colonial Surgeon.)		

(I.) In reference to the above Table, state whether or not the Register Books were produced on every occasion; and, if not, on how many occasions they were not so produced?

(II.) And if, on any occasion when they were examined, they were found not to be properly made up to date of examination.

(III.) State also how many Reports of the following kind have come under the notice of the Governor:—

(*a.*) Reports of a Financial and Statistical kind, especially such as shew the system on which Money and Store Accounts are kept and audited.

(*b.*) Reports by persons charged with the immediate management of the hospital.

(*c.*) Reports by a Government Inspector, independent of the governing authority of the hospital. (Append copies of his reports, if any.)

ANSWERS TO QUESTION III.

WESTERN PROVINCE.

Merchant Seamen's, Colombo.—All hospital books were invariably produced for inspection. They were always found made up to date. A return of receipts and disbursements is furnished to the Principal Civil Medical Officer's office at the end of every quarter. Whether this is seen by the Governor or not I do not know. I am not aware of any.

General Hospital, Maradána.—All books were produced for inspection at the half-yearly inspections by the Principal Civil Medical Officer and Inspector-General of Hospitals. All the books produced for inspection were found to be properly made up to date of examination. Annual, half-yearly, and monthly reports, as well as expenditure returns, are forwarded to the Principal Civil Medical Officer and Inspector-General of Hospitals.

Leper Hospital, Hendala.—They were produced. None.

Pánaduré.—They were produced on seven occasions. All found regularly entered up to date. Weekly, monthly, half-yearly, and annual returns were regularly forwarded to the Principal Civil Medical Officer and Inspector-General of Hospitals.

Kégalla.—The books of the hospital were produced on the visits of the Principal Civil Medical Officer and the Colonial Surgeon. No. Weekly, monthly, half-yearly and yearly reports and returns are forwarded to the Principal Civil Medical Officer and Inspector-General of Hospitals.

Ratnapura.—They were produced on the occasion of the visits of the Principal Civil Medical Officer and the Colonial Surgeon. They were found to be properly made up to date of examination.

Negombo.—Produced on every occasion. They were always found to be properly made up to date of examination. Weekly, monthly, half-yearly and annual returns and reports are forwarded as they fall due to the Principal Civil Medical Officer and Inspector-General of Hospitals through the Colonial Surgeon.

NORTH-WESTERN PROVINCE.

Kurunégala.—Produced on four occasions. They were all found properly made up to date of examination.

Puttalam.—The whole of the hospital books were produced and examined on the visits of the Principal Civil Medical Officer and Inspector-General of Hospitals (Dr. Kynsey). They were on each occasion made up to date, and were examined and initialed by the Principal Civil Medical Officer and Inspector-General of Hospitals. The number of diets and daily average of patients are monthly supplied to the local Assistant Government Agent, who can thus compare them with the bill of the hospital contractor. The diet tables are always at the call of the authorities, and the extra diet table is forwarded monthly to the Principal Civil Medical Officer and Inspector-General of Hospitals.

Chilaw.—Produced on every occasion. Found made up to date of examination. Weekly, monthly and annual reports and returns are forwarded to the Principal Civil Medical Officer as they become due.

SOUTHERN PROVINCE.

Galle.—The register books were produced on the occasion of the visit of Dr. Kynsey, the Principal Civil Medical Officer and Inspector-General of Hospitals. They were made up to date of examination. The reports and returns forwarded to the Principal Civil Medical Officer and Inspector-General of Hospitals as they fall due, are weekly, monthly, half-yearly and annual returns.

Mátara.—The books were shewn on three occasions, in February and December to the Principal Civil Medical Officer and Inspector-General of Hospitals; in September to the Colonial Surgeon, Galle. The books were found made up to date. None.

Hambantota.—Produced on the visits of the Principal Civil Medical Officer and the Colonial Surgeon. Found to be properly made up to date. Periodical returns and reports are forwarded as they fall due by the medical officer in charge to the Colonial Surgeon of the Province, and by him to the Principal Civil Medical Officer.

Tangalla.—The register books were produced on every occasion. They were always found to be properly made up to date of examination.

EASTERN PROVINCE.

Trincomalee.—Produced on the occasion of the visits of the Inspector-General of Hospitals. No. Periodical returns and reports are forwarded to the Principal Civil Medical Officer and Inspector-General of Hospitals.

Batticaloa.—The register books were produced for inspection on every occasion. They were always found properly made up to date of examination. Weekly, monthly, and yearly returns of sick, of vaccination, small-pox, and cholera, and half-yearly returns of medicines, equipment, and hospital expenditure, are periodically sent to the Principal Civil Medical Officer and Inspector-General of Hospitals.

NORTHERN PROVINCE.

Mullaittivu.—The books were only produced to the Colonial Surgeon of the Province on his visit on the 27th September, 1877. All the records were examined on the 27th September, 1877, by the Colonial Surgeon, and each of them was found to have been filled up to date, and an entry was made by him to that effect in the letter book.

Vavuniyá-Jilankulam.—Produced. Found made up to date. Weekly, monthly, half-yearly and annual returns are regularly forwarded to the Colonial Surgeon, and by him to the Inspector-General of Hospitals. I am not aware whether these have come under the notice of the Governor.

CENTRAL PROVINCE.

Kandy.—The books of the hospital were examined by the Principal Civil Medical Officer and Inspector-General of Hospitals. On every occasion they were found properly made up to date.

Gampola.—The register books were produced on every occasion. They were properly made up to date of examination. Annual and half-yearly returns and reports as well as monthly and weekly returns are forwarded to the Principal Civil Medical Officer and Inspector-General of Hospitals through the Colonial Surgeon of the Province.

Badulla.—Yes. They were found properly made up to date.

Mátalé.—The hospital records, &c., were always produced when desired, and were found made up to date.

Nuwara Eliya.—They were produced on two occasions before the Principal Civil Medical Officer and Inspector-General of Hospitals, and on one before the Colonial Surgeon. Up to date. None.

QUESTION IV.

Fill up the following Table of Cases of each kind of Disease treated in the Hospital in the Year, with the Number of Deaths from each such Disease.

Province and District.		I.—General Diseases—A.	I.—General Diseases—B.	II.—Local Diseases. 1. Nervous System.	2. Eye.	3. Ear.	4. Nose.	5. Circulatory System.	6. Absorbent.	7. Ductless glands.	8. Respiratory System.	9. Digestive System.	10. Urinary System.	11. Generative System.	12. Organs of Locomotion.	13. Cellular Tissue.	14. Cutaneous System.	III.—Conditions.	IV.—Poisons.	V.—Wounds and Injuries.	VI.—Surgical Operations.	Total.	Operations performed on cases admitted under other classes of disease.
Western Province.																							
Merchant Seamen's, Colombo	No. of cases ..	8	13	3	1	...	1	2	2	..	3	15	2	5	1	1	5	1	2	17	3	85	...
	„ of deaths	..	1	0	0	...	0	0	0	...	0	2	0	0	0	0	..	0	0	1	1	5	
General Hospital, Maradána	No. of cases...	419	574	91	55	3	...	21	4	...	153	969	139	168	21	69	351	268	13	284	...	3602	155
	„ of deaths	16	72	22	0	0	...	5	0	...	34	364	4	4	0	0	6	114	...	23	...	664	21
Hendala	No. of cases..	...	161	4	...	...	...	...	...	..	1	...	...	...	...	...	18	2	...	...	...	186	.
	„ of deaths	...	18	1	...	..	..	...	...	..	0	...	...	..	...	...	2	1	...	...	...	22	..
Panaduré	No. of cases ..	34	62	1	...	...	...	..	...	..	6	21	9	2	3	3	32	5	...	34	..	212	...
	„ of deaths	3	3	1	..	...	.	...	...	...	0	5	0	0	0	0	0	0	...	2	...	14	...
Kégalla	No. of cases...	102	111	9	3	1	2	1	1	...	17	116	11	2	3	5	91	52	1	25	...	553	...
	„ of deaths	6	11	0	0	0	0	1	0	...	3	38	0	0	1	0	0	0	0	2	...	62	.
Ratnapura	No of cases....	148	128	7	4	...	...	...	.	1	28	343	25	1	2	21	159	7	...	28	1	903	...
	„ of deaths	18	15	1	0	...	...	...	..	0	1	144	0	0	0	1	2	4	...	1	0	187	...
Negombo	No. of cases.	261	524	18	2	...	1	...	...	...	29	151	42	11	1	15	249	23	...	64	...	1391	.
	„ of deaths	4	25	9	0	...	0.	...	...	..	2	42	0	1	0	2	10	2	...	2	...	98	..
North-Western Province.																							
Kurunégala	No. of cases ..	307	334	11	15	1	1	1	...	...	65	323	42	10	9	16	406	57	...	57	...	1655	...
	„ of deaths	4	22	2	0	0	0	1	...	...	9	126	3	0	0	1	2	3	...	5	...	178	..
Puttalam	No. of cases .	203	97	...	1	..	...	2	.	..	10	77	16	6	..	13	156	22	1	9	...	613	...
	„ of deaths	6	9	...	0	...	...	0	...	...	1	15	0	1	...	1	2	2	0	0	...	37	...
Chilaw	No. of cases	27	37	1	...	...	..	2	...	..	...	14	1	...	1	1	81	0	...	7	.	172	.
	„ of deaths	0	1	0	...	...	...	2	..	...	..	3	0	...	0	0	0	0	...	1	...	7	...
Southern Province.																							
Galle	No. of cases..	111	388	21	12	1	2	...	.	...	28	219	36	41	2	47	306	164	6	193	..	1577	37
	„ of deaths	1	39	3	0	0	0	...	...	...	0	50	0	3	0	6	3	8	0	8	...	121	2
Mátara	No. of cases	245	98	13	3	...	3	...	...	...	5	68	29	1	1	10	204	16	...	68	..	764	6
	„ of deaths	21	21	1	0	...	0	...	...	...	0	16	0	0	0	0	3	4	..	7	..	73	1
Hambantota	No. of cases ..	78	32	1	2	...	...	...	...	...	7	38	4	...	...	3	24	4	...	11	...	204	...
	„ of deaths	0	0	0	0	..	...	..	...	...	0	6	0	...	...	0	2	0	...	0	...	8	...
Tangalla	No. of cases..	14	32	2	...	...	...	...	..	...	3	11	2	...	3	3	45	3	...	8	...	126	...
	„ of deaths	0	0	0	...	..	...	...	...	...	0	0	0	...	0	0	0	0	...	0	...	0	...
Eastern Province.																							
Trincomalee	No. of cases..	110	82	15	...	2	...	...	...	...	31	55	12	4	...	1	69	2	...	26	..	409	...
	„ of deaths	5	4	7	...	0	..	...	...	...	2	4	0	0	...	0	3	1	...	0	...	26	...
Batticaloa	No. of cases	141	110	7	1	...	...	...	...	...	4	65	12	..	...	13	55	2	...	40	..	450	...
	„ of deaths	0	6	0	0	...	...	...	...	...	0	8	0	...	...	0	1	0	...	1	...	16	...

Northern Province.																						
Mullaittívu	No. of cases ..	36	34	1	3	...	...	2	...	...	3	39	5	...	3	9	207	...	...	3	...	345
	„ of deaths	0	2	0	0	...	...	0	...	...	0	7	0	...	0	0	0	...	...	0	...	9
Vavuṇiya Viláṇkulam	No. of cases...	27	38	3	5	1	1	11	...	...	...	56	4	1	4	2	172	10	..	10	...	345
	„ of deaths	4	3	1	0	0	0	2	..	...	...	9	0	0	0	1	3	0	..	0	...	23
Central Province.																						
Kandy	No of cases..	553	417	85	16	2	3	5	...	...	74	1065	92	23	3	56	439	490	4	159	3	3489
	„ of deaths	6	28	5	0	0	0	3	...	...	12	542	0	0	0	4	29	111	0	14	1	755
Gampola	No. of cases	368	176	19	4	...	...	..	...	...	28	674	40	9	...	1	148	159	...	60	...	1686
	„ of deaths	83	7	5	0	...	...	...	...	...	2	307	0	0	..	0	3	16	...	4	...	427
Badulla	No. of cases	207	106	12	2	1	1	...	1	.	14	279	32	2	3	9	123	78	...	51	...	921
	„ of deaths	11	6	1	0	0	0	...	0	...	3	140	0	0	0	1	2	11	.	1	...	176
Mátalé	No. of cases .	126	134	7	2	...	..	...	...	..	13	512	13	1	1	11	122	300	1	69	...	1312
	„ of deaths	19	6	4	0		...	...	...	...	2	336	0	0	0	0	11	99	0	4	...	481
Nuwara Eliya	No. of cases .	53	32	2	...	...	...	...	...	..	27	71	12	2	...	9	25	39	1	20	1	294
	„ of deaths	11	7	1	...	..	...	...	..	...	5	31	0	0	...	1	2	21	1	0	0	80

And fill up the next Table of Cases of the following Diseases occurring amongst Patients and also amongst Officers.

Name of Disease	Occurring amongst Patients.			Occurring amongst Officers.			
				Resident Officers.		Non-Resident Officers.	
	Number of Cases.	In case of Patients attacked *while in Hospital*, state how long the person had been in Hospital before his attack, and for what Disease he was admitted.	Number of Deaths.	Cases.	Deaths.	Cases.	Deaths.
Western Province.							
Merchant Seamen's.							
Colombo.—Nil.							
General Hospital, Maradána.							
Erysipelas	1	46 days in hospital—admitted for club foot.	—	—	—	—	—
Leper Hospital, Hendala.							
Nil							
Panadure.—Nil.							
Kegalla.—Nil.							
Ratnapura.							
Cholera	1	Admitted on 16th March for Ague, on the 18th at 4 A.M. he was attacked and died at 5 P.M. the same day	—	—	—	—	—
Negombo.—Nil.							
North-Western Province.							
Kurunégala.—Nil.							
Puttalam.—Nil.							
Chilaw.—Nil.							
Southern Province.							
Galle.—Nil							
Mátara.—Nil.							
Hambantota.—Nil.							
Tangalla.							
Erysipelas	1	8 days in hospital before the attack was admitted for epilepsy	—	—	—	—	—
Eastern Province.							
Trincomalee.—Nil.							
Batticaloa.—Nil.							
Northern Province.							
Mullaittivu.—Nil.							
Vavuniyá-Vilankulam.—Nil.							
Central Province.							
Kandy.							
Small-pox	1	One day; admitted for fever.	—	—	—	—	—
Gampola.—Nil.							
Badulla.							
Cholera	5	4 days for Rheum.; 7 days for Mania; 5 days for Sy. Prim.; 9 days for Ulcer; 6 days for Ague.	5	1	1	—	—
Matale.—Nil.							
Nuwara Eliya.—Nil.							

RETURN shewing the **Death Rate** per Cent. of Total Cases treated in the Government Civil Hospitals of Ceylon during the years 1873—1877.

Hospitals.	Station.	1873.			1874.			1875.			1876.			1877.		
		Treated.	Died.	Per-centage of Deaths to the number treated.	Treated.	Died.	Per-centage of Deaths to the number treated.	Treated.	Died.	Per-centage of Deaths to the number treated.	Treated.	Died.	Per-centage of Deaths to the number treated.	Treated.	Died.	Per-centage of Deaths to the number treated.
Western Province.																
Lunatic Asylum ...	Borella ...	272	24	8·82	282	23	8·15	305	36	11·68	330	22	6·60	330	65	17·43
Merchant Seamen's Hospital ...	Colombo ...	70	1	1·42	57	7	12·28	56	2	3·57	59	3	5·08	85	5	5·88
Government Civil Hospital.. ..	Maradana ...	2060	230	11·16	2379	292	12·27	2411	338	14·01	2556	328	13·92	3602	664	18·43
Leper Hospital	Hendala ..	—	—	—	—	—	—	141	23	16·31	166	32	19·27	186	22	11·83
Government Civil Hospital .	Panadura ...	—	—	—	—	—	—	83	9	10·84	168	12	7·14	212	14	6·6
Do. do.	Kégalla .. .	—	—	—	—	—	—	204	26	12·74	301	15	4·98	553	62	11·21
Do do.	Ratnapura ...	257	30	11·67	298	46	15·43	356	62	17·41	525	68	12·95	903	187	20·7
Do. . do.	Negombo	376	18	4·78	644	43	6·67	662	51	7·70	840	50	5·95	1391	98	7·04
North-Western Province.																
Government Civil Hospital	Kurunégala	1066	62	5·81	1269	75	5·91	1417	110	7·76	1791	97	5·47	1655	178	10·75
Do. do.	Puttalam	333	24	7·20	528	36	6·81	524	25	4·77	551	20	3·62	613	37	6·03
Do. do.	Chilaw	—	—	—	—	—	—	225	13	5·07	244	14	6·07	172	7	4·06
Southern Province.																
Government Civil Hospital ..	Galle . ..	—	—	—	1318	89	6·69	1208	99	8·19	1627	99	6·08	1777	121	7·07
Do . do.	Mátara	428	33	7·71	322	40	12·42	333	43	12·91	706	67	9·49	764	73	9·55
Do. do.	Hambantota	—	—	—	—	—	—	128	7	5·46	222	8	3·60	204	8	5·92
Do. do.	Tangalla 1	—	—	—	—	—	—	—	—	—	—	—	—	126	—	—
Eastern Province.																
Government Civil Hospital ...	Trincomalee ..	205	12	5·85	295	22	7·45	229	20	8·73	267	17	6·36	409	26	6·35
Do. do.	Batticaloa . ..	—	—	—	—	—	—	—	—	—	252	9	3·57	450	16	3·55
Northern Province.																
Government Civil Hospital ...	Mullaitivu . ..	—	—	—	—	—	—	540	11	2·03	466	8	1·71	345	9	2·6
Do. do.	Vavuniya-Vilaykulam	—	—	—	—	—	—	353	9	2·54	289	13	4·49	345	23	6·6
Central Province.																
Government Civil Hospital ...	Kandy	377[illegible]	424	12·07	2120	304	14·33	2123	270	12·71	2617	314	11·99	3489	755	21·63
Do. do.	Gampola . .	1329	214	16·10	1186	152	12·81	990	174	17·57	807	100	12·39	1186	427	25·92
Do. do.	Badulla ...	[illegible]	92	13·27	647	93	14·41	546	78	14·27	777	129	16·60	9[illegible]	176	19·1
Do. do. ...	Matale ...	77	19	27·82	701	145	20·6[illegible]	6[illegible]	11[illegible]	16·16	574	143	25·03	1[illegible]	481	36·66
Do. do.	Nuwara Eliya .	—	—	—	117	19	16·23	123	18	14·63	154	49	25·97	294	80	27·21
	Total .	9430	1113	11·79	12161	1386	11·39	13653	1536	11·25	16[illegible]	1709	10·45	21684	3537	16·31

RETURN separating the cases treated in Hospitals into mixed races and Malabars.

Name of Hospital	Average Patients		Remaining in Hospital 1st Jan. 1877		Admitted during the year		Total Cases treated		Deaths		Discharged		Remaining in Hospital 31st Dec. 1877		Percentage of Deaths on Cases treated	Percentage of Deaths on Average	Principal Causes of Death							
	Mixed races	Malabars	Mixed races	Malabars	Mixed races	Malabars	Mixed races	Malabars	Mixed races	Malabars	Mixed races	Malabars	Mixed races	Malabars			Cholera	Diarrhœa	Dysentery	Accidental Deaths	Prevalent	General Debility	Fevers	Other Diseases
Lunatic Asylum, Colombo	270·63		201	65	79	45	280	110	48	20	34	15	206	67	17·43	17·14	18·8		28	8	4	—	13	2	13
Merchant Seamen's Hospital, Colombo	5·22	—	—	—	85	—	85	—	5	—	75	—	5	—	5·88	5·88	—	—	—	—	—	—	—	5
General Hospital	49·34	116·46	33	62	1501	2006	1534	2068	181	483	821	1958	61	98	18·43	11·79	23·35	—	252	93	35	102	4	14	164
Leper Hospital, Hendala	93·99	13·01	73	23	72	18	145	41	19	3	47	16	79	22	11·82	13·1	7·31	—		—	—	—	1	—	21
Civil Hospital, Pandure	7·14	5·62	3	2	138	69	141	71	12	2	126	63	3	6	6·6	8·51	2·81	—	2	1	1	—	—	3	7
do. Kegalla	11·75	13·32	7	9	252	285	259	294	19	43	230	236	10	15	11·21	7·33	14·62	—	17	20	8	—	—	3	14
do. Ratnapura	7·45	28·85	4	8	213	678	217	686	29	158	177	495	11	33	20·7	13·9	23·03	16	125	18	5	—	3	2	18
do. Negombo	46·26	39·08	46	21	652	672	698	693	37	61	613	588	48	44	7·04	5·3	8·8	—	21	17	10	—	2	4	44
do. Kurunegala	83·48		69	9	1110	467	1179	476	101	77	1026	371	62	28	10·75	8·5	16·17	—	106	15	9	1	2	3	42
do. Puttalam	9·16	29·12	24	12	177	403	201	412	5	32	189	379	7	21	6·63	2·48	7·76	—	7	7	3	—	2	6	12
do. Chilaw	15·23	·38	21	—	134	17	155	17	6	1	126	9	23	7	4·06	3·87	5·88	—	—	1	—	—	—	—	6
do. Galle	65	13	50	4	1305	218	1355	222	95	26	1198	180	62	16	7·67	7·01	11·71	—	45	1	26	—	8	1	40
do. Matara	21·18	29·19	5	7	323	431	328	436	34	39	271	389	23	8	9·57	10·36	8·94	13	11	5	10	—	4	8	22
do. Hambantota	6·57	2·68	7	—	122	75	129	75	3	5	124	59	3	10	3·92	2·32	6·60	—	2	3	—	—	—	—	3
do. Tangalla	7·63	91	—	—	111	15	111	15	—	—	99	15	12	—	—	—	—	—	—		—	—	—	—	—
do. Trincomalée	3·74	18·49	2	18	74	315	76	333	4	22	71	283	1	28	6·35	5·26	6·6	—	1	—	1	—	—	4	20
do. Batticaloa	10·7	16·3	15	13	193	229	208	242	4	12	189	217	15	13	3·55	1·92	4·95	—	5	3	2	—	—	—	6
do. Mullaittivu	35·20	1·55	23	2	311	9	334	11	8	1	271	10	55	—	2·6	2·30	9·09	—	2	4	2	—	—	—	1
do. Vavuniya-Vilankolam	16·38	2·76	12	—	268	65	280	65	19	4	245	59	16	2	6·6	6·78	6·15	—	1	8	1	—	—	4	9
do. Kandy	154·95		84	60	1317	2028	1401	2088	92	663	1248	1247	61	178	27·63	6·56	31·75	—	416	100	17	—	111	3	88
do. Gampola	21·23	43·40	12	10	522	1133	534	1152	62	365	461	750	11	37	25·32	11·61	31·68	41	127	178	5	—	16	—	60
do. Badulla	35·21		11	36	427	447	438	483	36	140	393	317	9	26	19·1	8·21	28·95	0	102	35	4	—	10	2	14
do. Matale	37·48		11	18	269	1014	280	1032	54	427	219	579	7	46	36·66	19·28	41·37	13	254	79	3	—	99	3	30
do. Nuwara Eliya	13·42		2	2	91	199	93	201	11	69	77	115	5	17	27·21	11·82	34·32	2	3	24	3	—	21	4	23

RETURN of all Diseases treated in the Government Civil Hospitals during 1877.

General Diseases.	Lunatic Asylum, Colombo.		Merchant Seamen's Hospital, Colombo.		General Hospital, Colombo.		Leper Hospital, Hendella.		Civil Hospital, Panadure.		Civil Hospital, Kegalle.		Civil Hospital, Ratnapura.		Civil Hospital, Negombo.		Civil Hospital, Kurunegala.		Civil Hospital, Puttalam.		Civil Hospital, Chilaw.		Civil Hospital, Galle.		Civil Hospital, Matara.		Civil Hospital, Hambantota.		Civil Hospital, Tangalla.		Civil Hospital, Trincomalee.		Civil Hospital, Batticaloa.		Civil Hospital, Mullaitivu.		Civil Hospital, Vavuniya-Vanniyan.		Civil Hospital, Kandy.		Civil Hospital, Gampola.		Civil Hospital, Badulla.		Civil Hospital, Matale.		Civil Hospital, Nuwara Eliya.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Sub-Division—A.																																																
Enteric Fever ...					25	8			2	2	1	1	2	1			1	1											1				12	4					3	1	2						2	1	1	1	52	20
Simple continued fever ...					19	1			6						1								32	1							2						1				34	3			3	1					98	6
Febricula ...					10																								1																						12	
Ague ...			8		326	3			25		90		121		256	3	298		202	6	12		78		222	8	74		10		83		139		35		110		482		166		192	1	76		22		2916	21
Remittent fever ...					2	1			1	1	2	2	2	1	3	1	5	2			15										1		1		2				5		5				5	2	7	3	66	16
Simple cholera ...																									3	1															3	3									6	4
Malignant cholera ...													22	16											18	12																	57	41	10	9	16	13	2	2	125	93
Erysipelas ...					8										1		2	1	1				1				1		1		14	1					2		6				1				2		40	2
Pyæmia ...					1	1					1	1																																					2	2
Measles ...					9	1					1						1																						10		3				1		1		26	1
Chicken-pox ...					8						1														2														11				7		3		4		30	
Small-pox ...					2						5	2																											1		146	42			23	3	11	5	188	52
Mumps ...					8						1		1																												1						3		14	
Puerperal fever ...					1	1																																											1	1
Total...			8		419	16			34	3	102	6	148	8	261	4	307	4	203	6	27		111	1	245	21	78		14		110	5	141		36		27	4	553	6	368	83	207	11	126	19	53	11	4578	218
Sub-Division—B.																																																	
Acute Rheumatism ...			5		3										17		1		1		1				5		5		3		1						2				4		23				3		74	
Chronic do. ...					112	1	3	2	7		29		20	2	49	1	54		27		4		45				10		3		21		35		32		4		103		35		8		5		7		606	6
Muscular do. ...											1						3																								1				3		1		9	
Gonl. do. ...													2				5										1																		2				10	
Primary Syphilis ...			2		67				6		15		18		39		15	1	5	1	2		40		7		1		3		1	1	1				4		157		52		34		10		6		483	3
Secondary do. ...			1		52		2	1	7		8		7		273	1	148		9		21		49		9		6		4		25	1	33				4		66		15		7		24		3		785	3
Hereditary do. ...					1																																												1	
Cancer ...					39	9							1		3		6	2	3	1			34	1	7								2		1				14	2	1				2				113	15
Scrofula ...					10	1	1	1			1				2								9		1								1						7		4		2						38	2
Phthisis Pulmonalis ...			1	1	58	13			2	2	7	1	5	2	15	7	15	7	5	1	1	1	35	7	5	1			2		4	1	6	2	1		1		16	9	1		3	2	7	2	5	4	200	69
Hæmoptysis (Tubr.) ...																							1		1	1																	1						6	1
Scurvy ...			1														3	1					7																										11	1
Anæmia ...			3		114	4			29		32	2	63	6	95	6	69	2	15	3	5		16	4	37	9	8		16		14	1	16	2	4		8	1			29	2	1		79	1	1		636	43
General Dropsy ...					90	35			10	1	18	8	10	5	26	10	20	9	32	3	3		135	26	25	10	1				2		1	2	6	2	11	1	58	17	32	5	27	4	10	3	6	3	513	144
Chronic Osteo-arthritis ...																	4																																1	
Tumor ...																	1						7						1										3										12	
Diabetes ...					10								1		2		2						3								1																		19	
Leprosy ...					6	1	155	14	1														7	1	1		1										9		11		2								187	16
Lumbago ...					6	1							1																										2						1				10	1
Beriberi ...					2																																												2	
Atrophy ...					1	1																																											1	1
Chlorosis ...																																					1	1											1	1
Total...			13	1	574	72	161	18	62	3	111	11	128	15	524	25	334	22	97	9	37	1	388	39	95	21	32		32		82	4	110	6	34	2	38	3	417	28	176	7	106	6	134	6	32	7	3720	300

G.—*continued*

Local Diseases.	Lunatic Asylum, Colombo		Merchant Seamen's Hospital, Colombo.		General Hospital, Colombo.		Lepr. Hospital, Hendella		Civil Hospital, Panadure.		Civil Hospital, Kegalla.		Civil Hospital, Ratnapura.		Civil Hospital, Negombo.		Civil Hospital, Kurunegala.		Civil Hospital, Puttalam.		Civil Hospital, Chilaw		Civil Hospital, Galle		Civil Hospital, Matara		Civil Hospital, Hambantota.		Civil Hospital, Tangalla.		Civil Hospital, Trincomalee.		Civil Hospital, Batticaloa.		Civil Hospital, Mullaitivu		Civil Hospital, Vavuniya-Vilankulam.		Civil Hospital, Kandy.		Civil Hospital, Gampola.		Civil Hospital, Badulla.		Civil Hospital, Matale.		Civil Hospital, Nuwara Eliya.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1.—*Nervous System.*																																																		
Locomotor Ataxy ...					4	1																			1																								5	1
Encephalitis																													2	1																			2	1
Inebriety																									2																								2	
Meningitis					1	1																																											1	1
Apoplexy					1								1	1			2	2																					1		2	1	1	1	1	1	3	3	1	1	13	10
Sunstroke			1		2																																												3	
Paralysis					17	4	4	1			4		3		14	7	2				1		11	1	4				1		7	4	2		1		1	1	15	1	4		3		1				95	19
Paralysis of the Insane ...	2																																																2	
Mania	219	58			6	1					1														1						1		5						35				3						271	59
Dementia	64	9											1																											5						1				71	9
Melancholia	1																																												1				2	
Imbecility	40																																																40	
Epilepsy					16	3					3				1		1						4		2				1								1		14	2	7	2	1						51	7
Neuralgia			2		10								2				2														3								13		2		2						36	
Tetanus					7	3			1	1					3	2							4	2	1	1	1				2	2							1	1	1				1	1	1		23	13
Hysteria																	1																																1	
Chorea					2	1					1						3						2		2																								10	1
Paraplegia					5	1																																			2	1	1								8	2
Idiotcy	37				1																																														38	
Hydrophobia					2	2																																													2	2
Infantile convulsion ...					1	1																																													1	1
Spina Bifida					1																																														1	
Hemeplegia					15	4																																			2	1	1								18	5
Under observation ...	27	1																																																	27	1
Total ...	390	68	3		91	22	4	1	1	1	9		7	1	18	9	11	2			1		21	3	13	1	1		2		16	7	7		1		3	1	85	5	19	5	12	1	7	4	2	1	723	132
2.—*Diseases of the Eye.*																																																			
Conjunctivitis and other diseases of the Eye ...			1		55						3		4		2		15		1				12		3		2						1		3		5		16		4		2		2				131	
Total ...			1		55						3		4		2		15		1				12		3		2						1		3		5		16		4		2		2				131	
3.—*Diseases of the Ear.*																																																			
Inflam. Memb. Tym: and other diseases of the Ear.					3						1						1						1								2						1		2				1						12	
Total ...					3						1						1						1								2						1		2				1						12	
4.—*Diseases of the Nose.*																																																			
Epistaxis and other diseases of the Nose ...			1								2				1		1						2		3														3				1						15	
Total ...			1								2				1		1						2		3												1		3				1						15	

| | | |

C.—*continued.*

Local Diseases.—*contd.*	Lunatic Asylum, Colombo.		Merchant Seamen's Hospital, Colombo.		General Hospital, Colombo.		Leper Hospital, Peradeniya.		Civil Hospital, Jaffna.		Civil Hospital, Kegalla.		Civil Hospital, Ratnapura.		Civil Hospital, Negombo.		Civil Hospital, Kurunegala.		Civil Hospital, Puttalam.		Civil Hospital, Chilaw.		Civil Hospital, Galle.		Civil Hospital, Matara.		Civil Hospital, Hambantota.		Civil Hospital, Tangalla.		Civil Hospital, Trincomalee.		Civil Hospital, Batticaloa.		Civil Hospital, Mullaitivu.		Civil Hospital, Colombo.		Civil Hospital, Kandy.		Civil Hospital, Gampola.		Civil Hospital, Badulla.		Civil Hospital, Matale.		Civil Hospital, Nuwara Eliya.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
9.—*Digestive System.—contd:*																																																				
Jaundice					3						2		1				1		1				1				4		1		2	1					1		1	1	1	1	1	1	1	1			21	5
Peritonitis									1	1	1	1					1																																3	2
Ascites			1	1	12	4					1				4	2	1		2				5	3								1																	35	12
Splenitis					14	1					1		1		18		26								13				1		12	1	6		4				13		4		1		2	2			132	2
Cirrhosis of the Liver ...					3				1	1							4	2										1	1										1										1	4
Abscess of the Liver ...					5	4							1	1			2	1																					1	1									9	6
Obstruction of the Bowels ...					1	1											1	1					1																		1	1					1		5	4
Salivary Fistula ...																							1																										1	
Prolapsus Ani					2										2								3																2										9	
Tabes Mesenterica ...																			1				10	1					1																				11	1
Inflam: of the Mouth ...																											1												2										3	
Harelip					1																																												1	
Fatty Liver					1	1																																											1	1
Stricture of Rectum ...					2																																												2	
Artificial Anus					1																																												1	
Imperforate Anus ...					1	1																																											1	1
Hypertrophy of the Spleen ...											6																												2										8	
Gastrodynia																																							2	2									2	2
Gumboil																																							1										1	
Tympanites																																																	1	
Dysphagia																																															1		1	
Hemorrhage of the Rectum ...											1																																						1	
Intussusception			1	1																																													1	1
Condyloma of the Anus ...			1																																														1	
Chronic Ulceration of Stomach ...																																											1						1	1
Total ...			15	2	969	364			21	5	116	38	343	144	151	42	323	126	47	15	14	3	219	50	68	16	38	6	11		55	4	65	8	39	7	56	9	1065	542	674	307	279	140	512	336	71	31	5181	2195
10.—*Urinary System.*																																																				
Bright's Disease					3	1							5				1	1							2																								11	2
Gonorrhœa			2		58				2		7		14		25		26		6		1		16		13		1		2		2		6		5		3		70		19		18		5		9		309	
Phimosis and Paraph ...					26				3		1				2		5		5				15		5						2		5						8		7		7		3				94	
Bubo (Gonorrhœal) ...					18				2				1		5		1		1				1		3								1						7		6		1		1		1		49	
Epididymitis (Gonorrhœal) ...																	2										1														1								4	
Stricture of Urethra ...					17										3		3	1	3				2		3		2				2								4		2		2				2		45	1
Cystitis					4	1			1		1		3		1		1						1		2						5																		21	1
Urinary Fistula ...					3						2				6				1				1								1						1		1		4		1		2				20	
Extrava: of Urine ...					2	1			1				1				1	1							1														1										7	2
Diuresis																	1																																1	
Hematuria Renalis ...																	1																						1										2	
Balanitis																	1																																1	

| | | |

G.—*continued.*

	Lunatic Asylum, Colombo.		Merchant Seamen's Hospital, Colombo.		General Hospital, Colombo.		Leper Hospital, Hendala.		Civil Hospital, Panadure.		Civil Hospital, Kegalla.		Civil Hospital, Ratnapura.		Civil Hospital, Negombo.		Civil Hospital, Kurunegala.		Civil Hospital, Puttalam.		Civil Hospital, Chilaw.		Civil Hospital, Galle.		Civil Hospital, Matara.		Civil Hospital, Hambantota.		Civil Hospital, Batticaloa.		Civil Hospital, Trincomalee.		Civil Hospital, Batticaloa.		Civil Hospital, Mullaitivu.		Civil Hospital, Vavuniya Vilankulam.		Civil Hospital, Kandy.		Civil Hospital, Gampola.		Civil Hospital, Badulla.		Civil Hospital, Matale.		Civil Hospital, Nuwara Eliya.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Local Diseases.—*contd.*																																																		
14.—*Cutaneous System—contd.*																																																		
Itch	...	...	...	...	21	...	...	...	2	...	13	...	10	...	26	...	68	...	2	1	6	...	31	...	11	...	...	...	...	...	32	...	4	...	7	...	6	...	50	...	14	...	16	...	6	...	1	...	323	1
Elephantiasis Arabum ...	...	...	...	...	3	1	2	...	...	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	13	1
Guinea Worm	...	...	...	...	3	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1	...	5	...	11	...	...	...	2	...	...	...	27	...
Onychia	...	...	...	...	11	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	21	...
Ecthyma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	5	...
Parangi	...	...	...	...	...	...	8	1	...	...	4	...	...	...	...	...	108	...	68	...	51	...	8	...	87	1	...	...	26	...	...	...	...	...	174	...	146	2	...	...	...	...	...	...	...	...	...	...	680	4
Pityriasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...
Herpes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...	...	...	6	...
Cicatrix	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Psoriasis	...	...	1	...	5	...	2	...	1	...	3	...	3	...	6	...	4	...	...	...	1	...	...	...	1	...	...	...	...	...	8	1	5	...	...	...	...	...	7	...	3	...	...	...	...	...	3	...	53	1
Nettle-rash	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	3	...
Prurigo	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...
Erythema	...	...	...	...	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	...
Tumor	...	...	...	...	12	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	14	...
Ichthyosis	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...
Warts	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	7	...
Carbuncle	...	...	...	...	3	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	2	...	1	...	2	...	...	...	...	...	1	...	...	...	12	...
Cheloid	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Gangrene of Skin ...	...	...	...	...	5	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	1	1	...	...	1	1	...	...	9	5
Roseola	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Rupia	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Condyloma	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...
Total...	...	...	5	...	351	6	16	2	32	...	91	...	159	2	249	10	406	2	156	2	81	...	306	3	204	3	24	2	45	...	69	3	55	1	207	...	172	3	439	29	148	3	123	2	122	11	25	2	3487	86
III.—Conditions.																																																		
General Debility ...	...	...	1	...	30	4	2	1	5	...	49	...	6	3	22	2	56	2	22	2	...	...	164	8	16	4	4	...	3	...	2	1	...	...	...	...	...	...	490	111	159	16	74	10	300	99	39	21	1444	284
Privation	...	...	...	...	219	102	...	...	...	...	...	...	1	1	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	...	...	...	...	3	...	...	...	...	...	284	104
Old age	...	...	...	...	19	8	...	...	...	...	3	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	26	9
Total ..	...	...	1	...	268	114	2	1	5	...	52	...	7	4	23	2	57	3	22	2	...	...	164	8	16	4	4	...	3	...	2	1	2	...	...	...	10	...	490	111	159	16	78	11	300	99	39	21	1704	397
IV.—Poisons.																																																		
Delirium Tremens ..	...	...	2	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	19	...
Snake bite	...	...	...	...	3	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...
Dog bite	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Poisoning by Datura Stram ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2	...
Do. by Copper ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1
Do. by Mercury ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...
Total ...	...	...	2	...	13	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	1	...	1	1	29	1

V.—Injuries.																																															
Burns and Scalds ...	...	...	...	...	...	5	1	...	...	...	...	6	1	...	...	...	...	8	...	1	...	...	...	5	...	1	...	1	...	...	...	4	...	7	...	...	...	...	...	6	2	3	...	3	...	...	...	...	50	4
Multiple injury ...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...
Asphyxia by drowning ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	1
Contusion ...	...	...	...	8	...	68	...	...	...	11	...	4	...	15	...	22	1	25	...	3	...	...	...	35	...	11	...	2	...	1	...	...	...	9	1	...	...	1	...	...	...	40	2	26	...	14	...	4	...	299	4
Concussion of Brain ...	...	...	...	2	1	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	3	1	...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	...	...	...	...	...	...	...	13	4
Fracture ...	...	...	...	1	...	65	11	...	...	6	1	2	1	3	1	6	...	7	2	...	...	...	...	38	5	6	1	1	...	...	...	2	...	4	...	1	...	1	...	17	...	8	1	4	1	7	2	5	...	184	26
Wounds ...	...	...	...	3	...	118	11	...	...	16	1	10	...	6	...	33	1	15	3	5	...	7	1	108	2	44	4	6	...	7	...	10	...	18	...	2	...	5	...	131	9	8	1	17	...	45	2	10	...	624	35
Wounds from Gunshot ...	...	...	...	...	...	4	...	...	...	...	...	3	...	2	...	2	...	2	...	...	...	...	...	2	...	3	1	...	...	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	24	1
Sprain ...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	3	...	...	...	1	...	1	...	...	...	1	...	11	...
Dislocation ...	...	...	...	1	...	6	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	12	...
Blisters of the feet ...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Contractura ...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...
Cut throat ...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Compression of Brain ...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Rupture of Urethra ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1
Total ...	...	...	...	17	1	284	23	...	...	34	2	25	2	28	1	64	2	57	5	9	...	7	1	193	8	68	7	11	...	8	...	26	...	40	1	3	...	10	...	159	14	60	4	51	1	69	4	20	...	1243	76
VI.—Surgical Operations.	...	...	...	3	1	155	21	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	37	2	6	1	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...	...	1	...	206	26

W. R. KYNSEY,
Principal Civil Medical Officer and
Inspector-General of Hospitals.

III.

RAILWAY EXTENSION

FROM

KUDA-OYA TO TALAWAKELE.

(In continuation of Sessional Paper No. VI of 1877.)

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

RAILWAY EXTENSION.

FROM KUDA-OYA TO TALAWAKELE.

From the CHIEF ENGINEER, Railway Extension, to the Hon'ble the COLONIAL SECRETARY.

No. 93. Nawalaptiya, 13th May, 1878.

RAILWAY EXTENSION.

Revised estimate.

SIR,—WITH reference to my letter to your address No. 41 of 29th September, 1877, I regret having recently ascertained that Mr. Mayes had calculated his earthwork in an unusual manner, and on checking some of his quantities myself I found that they have been taken out too low.

2. Mr. Mayes was therefore directed to re-calculate the whole of the earthwork from Kuda-oya to Talawakele on the system adopted by the other engineers, and the result on the seven and-a-half miles is an excess over his former estimate of 161,667 rupees, or say 21,602 rupees per mile. Mr. Mayes' revised total is therefore 1,715,556 rupees, and to this should be added for Rosita and Talawakele stations 17,500 rupees, making in all 1,733,056 rupees or 231,568 rupees per mile.

3.—A copy of Mr. Mayes' revised estimate dated 26th March last is enclosed: it was returned for further revision on 8th April, and reached this office on 24th ultimo. I suggest that a copy of these papers be forwarded to the Consulting Engineer.

I have, &c.,
J. R. MOSSE.

MR. MAYES' ESTIMATES, KUDA-OYA TO TALAWAKELE.

See Sessional Paper VI. of 29th September, 1877, dated 26th March, 1878. Excess of Estimate, 26th March, 1878.

	Rs per Mile	Rs. Cts	Rs. Cts.		Rs. Cts	Rs. Cts.	
Works, Kuda-oya to Rosita ...	—	-	108,668 44	—	155,856 16	45,187 72	
Works-Rosita to Talawakele ...	—	—	600,692 72	—	702,475 18	101,782 46	
Permanent way, iron rails except on 1' in 44'	38,848						
Fencing and draining .	3,520						
Level crossings and guard houses	500						
Telegraph	600						
7·484 miles at ...	43,468	325,414 51					
Add for steel rails on gradient 1 in 44'	—	6,147 0					
		331,461 51					
Add 10 per cent. for sidings ..	—	33,146 15	364,607 66	—	364,607 66	Excess per mile.	
			1,073,968 82	—	1,220,939 0	146,970 18	
Add 10 per cent contingencies ..	—	—	107,396 82	—	122,094 90	14,697 2	
Total Way and Works	—	—	1,181,365 64	—	1,343,032 90	161,667 20	
Or, 157,852 rupees per mile ...	—	—	—	Rs. 179,453 88 per mile		—	Rs. 21,602
Rolling Stock, &c							
Rolling stock, 7·484 miles at 20,112 rupees per mile ..	150,518						
Land and compensation ..	58,284						
Stations, Rosita ..20,000 rupees							
„ Talawakele 42,500 rupees	62,500						
Supervision during construction 3 years, 7·484 miles at 9,000 rupees	67,356						
		338,658 0					
10 per cent contingencies ..	—	33,865 0					
			372,523 0	—	372,523 0		
Or, 49,776 rupees per mile .	—	—	—	Rs. 49,776 per mile			
Total Estimate.							
Way and Works	—	1,181,365 64		Rs. 1,343,032 90			
Rolling stock	—	372,523 0		„ 372,523 0			
Or 207,628 rupees per mile				Rs. 229,230 per mile ...	1,715,555 90	161,667 26	Rs. 21,602
				Add for Rosita and Talawakele Stations ..	17,500 0	17,500 0	„ 2,338
			1,553,888 64	Grand Total	1,733,055 90	179,167 26	„ 23,940
				Per mile ...	231,568 0		

IV.

REPORT

ON THE

INSPECTION OF THE PEARL OYSTER BANKS.

1878.

BY JAMES DONNAN, ESQ.,
INSPECTOR

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

REPORT

ON THE

INSPECTION OF THE PEARL OYSTER BANKS.—1878.

No. 36.

Master Attendant's Office,
Colombo, 17th April, 1878.

PEARL BANKS.

INSPECTION REPORT.

SIR,—I HAVE the honor to report my return to Colombo on the 14th instant from an inspection tour of the principal pearl oyster beds off Arippu and Chilaw, and to submit the following report on the state of the beds or banks which were examined.

2. I left Colombo on the 4th March in the chartered native schooner "*Geraldine*," and arrived on the 7th at Sillavaturai; where I found the divers and their attendants waiting for me. I proceeded out to the banks on the 8th, and got into position on the afternoon of that day for commencing the inspection of the Cheval-Paar.

3. The inspection was carried on in the manner I usually adopt, which may be described thus:—The inspection vessel is fixed in position as a central mark by compass bearings of fixed points on shore, or when land is not visible by distance run by patent log from the last position; and from the vessel on the four cardinal points of the compass buoys are laid out by mast head angles at one-fourth, half, and three-quarter mile distance, thus embracing within the outer buoys a circle of one and-a-half mile in diameter. There are four boats manned by a crew of five rowers, with three divers and their assistants in each, in charge of a coxswain who is furnished with a diagram on which to mark the position and result of each dive that is made. The four boats arrange themselves in a line with the vessel at equal distances apart, and each boat makes three circuits round the vessel; the first between the one-fourth mile buoys and the vessel, the second between the one-fourth, and half mile buoys, and the third between the half and three-quarter mile buoys; in all sixteen concentric lines of examination are made between the vessel and the three-quarter mile buoys; and when a diagram is formed of these lines and the result of each dive marked in its proper place, a very complete and satisfactory view is at once obtained of the nature of the bottom within the circle of examination. The inspection vessel is shifted daily to such a position as will connect the outer line of examination of one day's work with another, until the limits of the bank under examination have been gone over. A circle of one and-a-half mile in diameter is as large as can be properly examined in one day, as it takes the boats generally from 7 A.M. to 1 or 2 P.M., to go over it, and that is as long as the divers are willing to work. The progress in this system of inspection is comparatively slow, but it repays by the conviction it brings to the mind of the work being thoroughly done, and the impossibility of any patch of oysters of importance escaping detection.

4. From the 9th to 29th March was occupied in inspecting the Cheval-Paar, Modregam-Paar, Kallutidel-Paar, Persia-Paar Kerra, Vankalai-Paar, Pegria-Paar, Kondatchi-Paar, and a new bank to the westward of Cheval, all in the vicinity of Arippu:—30th March, in watering ship at Sillavaturai; 31st March to 2nd April, in proceeding to Chilaw; 3rd to 5th April, in inspecting the Jokenpitti-Paar and Chilaw-Paar in the vicinity of Chilaw; 6th and 7th April, in returning to Sillavaturai; 8th to 11th April in washing and valuing the sample oysters landed at Sillavaturai; and 12th to 14th April, in returning to Colombo.

5. On the Cheval-Paar there is a large bed of three years old oysters, three miles long in its longest direction, by one and-a-half mile broad at its broadest part, and its superficial area is about 15,381,250 yards. The oysters are thickly spread over this, and firmly attached to rocky ground; in many places 50 to 100 might be taken up at one dive, but the average number to a dive for the whole bed was found to be thirty-one. I estimate that there are now about twenty-one millions of oysters on this bed, and that they will be fit for fishing in March, 1880. The bed is at present too large and the oysters too thick on it to admit of its being properly fished in one year, and therefore it will probably give a second fishing in 1881. The oysters on its southern half seem somewhat larger and older than on the northern part, and therefore the southern part should be fished first, say in 1880, and the northern part in 1881. Immediately to the south-east of this bed there is a small bed, also on the Cheval, of young oysters about nine months old, which will probably yield a fishery in 1882.

PEARL BANKS.

Inspection Report.

6. When going over the fishing ground of last year on the East Cheval the inspection boats came upon a small patch of old oysters of about 100 feet in diameter, which had evidently escaped the fishing boats, as it was on the very border of the bank as buoyed off for fishing, and the oysters on it also seemed to have been untouched. I got up 6,323 oysters from this patch, and 703 from other parts of the fishing ground of last year, also 755 from the portion of the Modregam which was fished last year, in all a sample of 7,781 oysters of the remnant of last year's fishery. I lifted this sample with the view of testing the increase in number and value of pearls which oysters produce within a certain period, and the result of the subsequent washing at Sillavaturai is very interesting. The pearls produced by the 7,781 oysters (exactly five years old when lifted) weighed ten kalangeys and were valued at 318 rupees and 68¾ cents; whereas the 10,000 oysters of the same brood lifted in November, 1876, when they were three years and eight months old produced pearls of four kalangeys and 6 14/20 manjodys in weight, and 266 rupees and 99 cents in value. Therefore, the increase in weight of pearls in sixteen months time has been equal to about 177 per cent., but in value of only about 50 per cent.

This small increase in value compared with weight was explained to me by the chief valuer in Sillavaturai who said that it did not follow that the value of pearls should always increase in the same ratio as the weight, because the value of a sample may be considerably increased or diminished according to the presence or absence of ane-pearls. In this case there were no ane-pearls in the sample, and hence the comparatively small increase in value.

7. The question for consideration resulting from this is, would it have been more profitable to Government to have delayed the fishery of last year till the present year? When the sample oysters were lifted in November, 1876, it was found that the oysters were scattered over the bed and few in number, and that there had been a loss of oysters, from natural or other causes, of 39 per cent. between March, 1875, and March, 1876, and of 27 per cent. between March and November, 1876. These circumstances seemed to justify the fishing of the oysters in March, 1877; but when lifting the sample just before the fishery in March, I found that this rapid loss of oysters had been arrested; the number obtained to a dive was found to be about the same as in November, and the percentage of dead shell was also the same; no fresh ones were found. Taking these facts into consideration together with the fact of finding a year after the fishery a patch of the same oysters in a healthy condition with comparatively few dead shells amongst them, also the result of washing the sample, I am now led to answer this question in the affirmative.

8. I have compiled from the fishery records the annexed table of particulars of the sample oysters which have been lifted since the year 1851, which will be useful in future in determining when oysters ought to be fished. I gather from this table that when the age of oysters is accurately known, five years or five and-a-half is the proper age to fish them at, and that it is extremely risky to keep them till the sixth year; and that when the age is not known, then, if the November sample should produce pearls weighing about one kalangey per thousand oysters, the oysters should be fished the following March. The table also shews that between the fourth and fifth year of the oysters' existence, the largest increase in weight of pearls takes place, but that between the fifth and sixth year the largest increase in value; that is, I presume, the largest increase of ane-pearls. The comparisons are too few in number for the purpose of proving if this increase takes place in a constant quantity according to the age of the oyster, but the results in the instances of comparison quoted are so nearly similar as to encourage the idea that further observation might prove this to be the case.

9. While inspecting the Cheval I discovered oysters on a new bank, two and-a-quarter miles to the westward of the Cheval, where it has generally been considered that there was nothing but an extensive sandy flat. I saw it recorded in the diary of inspection by Captain Laughton in March, 1802, that he found oysters of four or five years in abundance in nine fathoms rocky bottom, Koodromallai, bearing S.E. ¾ E.; and being anxious to test if rocky bottom really existed in that neighbourhood, I took all the inspection boats in tow of the launch out to the verge of the bank of soundings, and directed them to dive all the way back to the inspection vessel, so as to cross the position noted by Captain Laughton, and they came upon rocky ground and oysters, where they placed a buoy. On subsequent examination this bed of oysters proved to be about one-and-a-half mile in its longest direction N.N.W. and S.S.E. and about three-fourths of a mile broad at its broadest part, having a depth of water over it of from 8¼ to 9¼ fathoms, and a sandy flat of nine fathoms between it and the Cheval. I believe it to be an extension of the Perria-Paar in a S. E. direction. I have duly recorded its position in my diary. The superficial area of the bed is 3,845,935 yards, and the oysters on it average twenty-two to a dive. I estimate the total number of oysters on it at three and-a-half millions, sufficient to give ten days' fishing for fifty boats, with loads of 7,000 oysters each. I found, however, thirteen per cent. of dead shells, which is an unfavourable sign, and a large quantity of sea weed growing on the oysters. I have been much puzzled about the age of these oysters, as they appeared to be old although of small size. I believe them to be of the description known to the natives as "koddapako," which are said to be a small class of oyster but rich in pearl. They resemble the oysters on the Chilaw banks, which

I know to be four years old now, and therefore they ought to be fit for fishing in March next. I lifted a small sample of 1,100 of them and had them washed at Sillavaturai at the same time as the Cheval oysters, but the produce of pearls of five and-a-half manjodys in weight, valued at 5 rupees and 25 cents, does not hold out a prospect of their being ripe for fishing in March next.

The sample, however, was too small to fairly test the oysters, and I recommend a sample of 10,000 being lifted in November next. I can find no record of this bed having ever been inspected since 1802, and it is a curious coincidence that what was then recorded of its condition might be recorded now on its most probably first examination since that time.

10. I found no oysters on any of the other banks examined in the neighbourhood of Arippu.

11. On the southern end of the Jokenpitty-Paar off Chilaw, there is a bed of four years old oysters of 2,271,062 superficial yards in area. The oysters on it average thirteen to a dive, and I estimate the number at about one and-a-half million, sufficient to afford five days' fishing for fifty boats with average loads of 6,000 oysters each. These oysters also appear to be of the "Koddapako" description, and they will probably be fit for fishing in March next. It will therefore be necessary to lift a sample in November next. I found that the oysters on a smaller bed of this same bank, about a mile to the north of the present bed, have nearly all disappeared: In November, 1876, I estimated their number at about 250,000, but only a few remain now. The oysters on the Chilaw-Paar, estimated in November, 1876, at about 500,000, have also nearly all disappeared. They were however chiefly on sandy ground and I had great doubts of their remaining.

12. I annex a copy of my diary of the inspection, and I forward herewith a packet containing the pearls of the oysters recently washed at Sillavaturai. I recommend their being sent to Mr. Twynam in Jaffna to be valued there, as I believe the valuation given at Sillavaturai to be low.

13. I shall conclude by briefly recapitulating the prospects of future fisheries, which I am happy to state are very good. First, a probable fishery in March, 1879, of three and-a-half million oysters from the new bank to west of Cheval, which might be called the "Koddapako-Paar," and of one and a-half million oysters from the Jokenpitty-Paar off Chilaw; in all four and-a-half millions oysters. A sample to be lifted from these beds in November next. Secondly, a fishery in March, 1880, and in March, 1881, from a bed on the West and North-West Cheval at present estimated to contain 21 millions of oysters. Thirdly, a fishery in March, 1882, from the bed of young oysters, now estimated at nine months old, on the South Cheval.

I am, &c.,
J. DONNAN,
Inspector of Pearl Banks.

TABLE shewing result of Sample Oysters lifted at various periods, taken from Pearl Fishery Records.

Date of lifting Sample	Bank taken from	Number of oysters lifted.	Total weight of pearls produced, including shell pearls		Average weight of pearls per 1,000 oysters		Total value of Sample.		Value per 1,000 oysters		Age of oysters as near as can be ascertained		Increase in weight of pearls, within a given time, in cases where it is known	Increase in value, within a given time in cases where it is known.	REMARKS.
			Kalanger.	Manjody.	Kalanger	Manjody.	Rs	Cts	Rs	Cts	Years	Months.			
November, 1854	Cheval	4,000	1	...	...	5	79	72	17	68	4	...	...		Age accurately known.
March, 1855	do	4,500	1	19	...	6	60	87	13	75	4	4	..		do. do
November, 1855	do.	10,000	6	1	...	13	100	60	11	6	..	...	...	...	
February, 1857	do.	10,000	4	16	...	9	140	0	14	0	4		Between the 4th and 5th year of age, 16 per cent.	55 per cent.	Age approximate. These oysters were all of the brood.
November, 1857	do.	12,000	9	...	..	15	195	72	16	31	.	..			
February, 1858	do.	12,000	14	13	1	4	269	40	21	7	3	.			
November, 1858	Modregam	12,000	12	17	1	14	182	16	15	18			Between the 5th and 6th year of age, 9 per cent	219 per cent	
Do	Cheval	14,000	17	8	1	15	317	0	21	7	.	..			
March, 1859	do.	10,000	22	15	2	5½	445	10	44	60	6				Extreme age. So many dead shells were found in lifting the previous November sample that it was considered very doubtful if the oysters would survive till March.
Do.	Modregam	12,000	19	2	1	12	265	68	24	64	5		Between the 5th and 6th year of age, 10 per cent.	158 per cent	These oysters were all of one brood.
November, 1859	do.	1,220	Weight not given				42	95	35	24	..				
March, 1860	do.	6,500	20	19½	3	4	469	75	72	27	6				
November, 1862	Cheval	12,000	29	3	2	9	540	0	45	0	..			...	...
March, 1863	do.	12,000	31	12	2	13	513	0	43	9	5			...	Age approximate.
November, 1863	do.	12,000	31	1	2	12	384	40	48	71	6		...		
November, 1873	do.	10,000	3	15	...	7½	433	35	35	35	.				Extreme age. A fishery was arranged for the following March, but when the time came the oysters were found all dead.
February, 1874	do.	10,000	5	8	...	11	305	0	36	50	4			..	
November, 1876	do.	10,000	4	6 14 20	...	8¾	266	60	26	70	3	8	In 16 months, or as between the 4th and 5th year 177 per cent	50 per cent.	Age accurately known.
March, 1878	do.	7,751	10	...	1	5	318	68½	39	85	5				These oysters were the remnant of the previous year's fishery.

NOTE.—This table shews that about five years is the proper age to lift oysters at, when the age is accurately known, and that it is exceedingly risky to keep them till the sixth year. If age is not known, then if the November sample should produce pearls equal to about six kalanger per thousand oysters the oysters should be lifted the following March.

J. DONNAN,
Inspector of Pearl Banks.

V.

FURTHER PAPERS

ON THE SUBJECT OF

RAILWAY EXTENSION TO NANU-OYA.

KUDA-OYA TO TALAWAKELE.

(In continuation of Sessional Paper No. III. of 1878.)

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
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1878.

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REPORT AND REVISED ESTIMATE

OF A SINGLE LINE OF RAILWAY FROM

KUDA-OYA TO TALAWAKELE.

No. 1.

From the CHIEF ENGINEER, Railway Extension, to the Hon'ble the COLONIAL SECRETARY.

No. 106. Nawalapitiya, 10th June, 1878.

RAILWAY EXTENSION.

FURTHER PAPERS.

SIR,—IN forwarding as directed in your letter of 28th ultimo a copy of Mr. Mayes revised estimate "Kudá-oya to Talawakele," dated 26th March, 1878, I have the honor to remark that as soon as the monsoon permits I purpose examining this portion of the line, in order to alter the gradients and thus reduce the quantities of earthwork above given.

2. At present it is impossible to speak even approximately, but I anticipate that this saving will amount to some 10,000 rupees per mile, thus reducing the total cost of the works to about 1,650,000 rupees, or say 220,000 rupees per mile.

I have, &c.,

J. R. MOSSE.

ESTIMATE OF A SINGLE LINE OF RAILWAY, 5′ 6″ GAUGE, FROM KUDA-OYA TO TALAWAKELE, WITH ALTERATION OF QUANTITIES OF EARTHWORK AS PER INSTRUCTIONS FROM MR. MOSSE, 13TH DECEMBER, 1877.—*Length 7·484 miles.*

Alteration of Line from Kudá-oya to Rosita.

List of Alinenations of Centre Line of Railway.

No.	Right.	Left.	Centre angle.	Curve begins	Curve ends	Length in chains.	Tangent.	Straight Lines, chains.
								1·83
1	5·21	—	41·40	1·83	5·62	3·79	198·26	—
								9·13
2	6·36	—	39·50	14·75	19·18	4·43	230·44	—
								1·82
3	—	8·18	28·30	21·00	25·07	4·07	207·74	—
								2·94
				28·01.				
4	8·18	—	13·54	28·39½	30·53	1·93½	99·71	—
								8·17
6	—	5·73	37·20	38·70	44·95	6 25	194·51	—
								3·05
7	5·73	—	65·00	48·00	54·50	6·50	365·04	—
								12·82
8	—	8·18	23·00	67·32	70 60½	3·27⅔	166·46	—
—	—	—	Junction	with old line	at		2·32·18	8·40
				M. C. L.	M. C. L.			3 92
18	6·36	—	75·25	2 36 10	2 44 48	8·38	4·92	—
								3·70
19	—	6·36	71·30	2. 48 18	2 56 16	7·98	4·61	—
								28·84
20	6·36	—	77 48½	3 5 0	3 13 65	8·65	5·14	—
								7·71
21	—	6·36	69 01	3 21 36	3 29 3	7·67	4·36	—
								9·41
22	6·36	—	49·09	3 38 44	3 43 1	4·57	2·39	—
23	—	—	—	3. 61 0	End of Rosita district.			17 99
	—	—	Distance	—	—	67·51	—	119 73

		M.	C.	L.		Length. M.	C.	L.		M.	C.	L.
Length Kudá-oya ...		0	0	0								
Junction	New line...		79	0	58 lks.	0	78	42	old length of line	3·617 ...	3	61 0
	Old line ...	2	38	18					present length	2·341 ...	2	27 24
	Rosita ...	3	61	0		1	28	82				
					miles	2	27	24	—2·341 length saved	1·276 m.	1	33 76

RAILWAY EXTENSION.

FURTHER PAPERS.

List of Alinements of Centre Line of Railway.—Rosita to Talawakele.

No.	Right.	Left.	Centre.	Begins. M.	C.	L.	Ends. M.	C.	L.	Curve.	Straight.	Tangents.
23	5·73	—	45·42	3	61	83	3	66	40	457·00	83	241·45
23a	6·37	—	45·12	3	67	05	3	72	03	508·00	118	268·42
24	—	4·98	115·17	3	74	00	4	4	4	1004·62	197	785·98
25	—	8·185	29·54	4	7	06	4	10	33	327·14	302	218·55
26	8·185	—	19·06	4	20	75	4	23	48	272·85	1042	137·70
27	—	4·98	56·24	4	25	23	4	30	13	490·22	175	267·13
28	6·367	—	45·19½	4	31	97	4	37	01	503·59	184	265·80
29	5·457	—	74·31½	4	37	64	4	44	74	710·66	63	415·06
30	—	6·367	111·15	4	46	87	4	59	31	1243·48	213	942·31
31	8·185	—	32·23	4	63	41	4	68	3	462·33	410	237·67
32	—	12·73	38·51	4	70	10	4	78	73	863·19	207	448·91
33	6·367	—	56·06	4	79	45	5	5	68	623·31	72	339·20
34	—	6·367	40·27	5	16	19	5	20	69	449·18	1051	234·53
35	—	7·16	21·31	5	24	76	5	27	45	268·88	407	136·04
36	7·16	—	57·46	5	31	88	5	42	07	721·88	740	394·98
37	6·367	—	42·29	5	53	71	5	58	43	472·02	1164	247·45
38	—	4·98	59·44	5	61	60	5	66	79	519·39	317	286·09
39	5·73	—	42·47	5	68	25	5	72	53	427·86	146	224·46
40	—	5·73	26·28	5	74	06	5	76	71	264·68	153	134·75
41	4·98	—	46·05	5	78	05	6	2	06	400·70	134	208·83
42	—	6·367	59·23	6	3	64	6	10	24	659·79	50	362·95
43	6·367	—	74·48½	6	14	56	6	22	87	831·18	168	486·78
44	6·367	—	44·23	6	25	42	6	30	35	493·13	432	259·68
45	8·185	—	24·33	6	40	22	6	43	75	350·92	255	178·20
46	—	5·73	52·35½	6	46	28	6	51	54	525·87	987	283·09
47	5·21	—	19·21	6	53	81	6	55	57	175·95	255	88·82
48	—	4·98	65·58	6	57	78	6	63	47	569·01	227	320·11
49	14·32	—	8·15	6	70	60	6	72	61	201·19	221	103·27
50	—	5·73	70·39	7	0	56	7	7	62	706·23	713	406·06
51	5·73	—	95·29	7	10	66	7	20	19	952·90	795	630·63
52	—	7·16	51·23	7	24	81	7	31	23	642·29	304	344·55
53	4·98	—	55·26	7	35	03	7	39	85	481·81	462	261·64
54	—	5·73	32·10	7	48	03	7	51	25	321·69	880	165·21
55	5·73	—	73·06	7	55	89	7	63	20	731·06	818	424·89
											464	

No.	Right.	Left.	Centre	Begins.	Ends.	Curves.	Straight.	Tangents.
				M. C. L.	M. C. L.			
56	—	4·98	42·36	7 76 54½	8 0 25	370·27	1334½ — 145	194·16
57	7·16	—	26·24	8 1 70	8 4 25	254·94	— 226	128·82
58	—	11·46	47·27	8 6 51	8 16 00	949·07	— 873	508·75
59	6·39	—	78·02	8 24 73	8 33 40½	867·55	— 240½	516·14
60	—	6·37	51·14	8 35 81	8 41 50	569·60	— 1104	305·43
61	—	6·37	67·08	8 52 54	8 60 00	746·00	—	422·75
62	—	5·73	68·00	8 60 00	8 66 80	680·00	— 142	386 49
63	—	5·73	31·12	8 68 22	8 72 66	312·00		160·08
						23384·00	177·64	

Abstract.

Curves	...	...	23,384
Straights	...	...	17,764
Total length	...		41,148 — M. 5 C. 11 L. 48

Entered from Mr. Mayes' letter dated 14th March, 1877.

TABLE OF GRADIENTS FROM ROSITA TO TALAWAKELE.

From	To	Distance or length of Incline.	Inclination.	Rise in feet.	Fall in feet.	Height above datum.	REMARKS.
M C L	M C L	M C L					
0 00 00	0 58 00	0 57 41	1 in 44	...	86·12	4171·38	0·58 = 57·41.
0 58 00	0 75 33	0 17 33	1 in 198	...	6·17	4165·21	Wangi-oya at 0 m. 61 chs.
0 75 33	2 41 03	0 12 69	1 in 44	...	19 04	4146 17	0·79 = 2·32·14 on old line.
2 41 03	2 54 00	0 12 97	Level	...	...	4146·17	Junction with formation of
2 54 00	3 2 67	0 28 66	1 in 88	...	21·50	4124·67	old line is 2·45·66.
3 2 67	3 14 67	0 12 34	Level	...	...	4124·67	
3 14 67	3 23 00	0 8 33	1 in 88	6·25	...	4130·92	
3 23 00	3 39 00	0 16 00	Level	...	...	4130·92	
3 39 00	3 46 56	0 7 56	1 in 88	...	5·67	4125·25	
3 46 56	3 64 00	0 17 44	Level	...	...	4125·25	Rosita station.
3 64 00	4 1 00	0 17 64	1 in 66	...	17·64	4107·61	From 3 miles 66 chains to 3 miles 67 chains it is 1 chain 64 links in length.
4 1 00	4 11 00	0 10 00	1 in 264	...	2·50	4105·11	
4 11 00	4 65 00	0 54 00	1 in 66	...	54·00	4051·11	
4 65 00	4 68 00	0 3 00	Level	...	...	4051·11	Forest Creek.
4 68 00	4 73 00	0 5 00	1 in 132	...	2·50	4048·61	
4 73 00	5 8 00	0 15 00	Level	...	...	4048·61	
5 8 00	5 17 00	0 9 00	1 in 88	6·75	...	4055·36	
5 17 00	5 20 00	0 3 00	Level	...	...	4055·00	
5 20 00	5 28 00	0 8 00	1 in 198	...	2·66	4052·70	
5 28 00	5 33 00	0 5 00	1 in 88	...	3·75	4048·95	
5 33 00	5 45 00	0 12 00	1 in 198	...	4·00	4044·95	Kutugaloya river.
5 45 00	5 59 00	0 14 00	1 in 66	...	14·00	4030·95	
5 59 00	5 62 00	0 3 00	Level	...	...	4030·95	
5 62 00	6 5 00	0 23 50	1 in 132	11·75	...	4042·70	From 5 ms. 76 chs. to 5 ms. 77 chs. it is 1 ch. 50 l. in length.
6 5 00	6 17 00	0 12 00	Level	...	...	4042·70	Craigie Lea.
6 17 00	6 61 48	0 44 48	1 in 66	...	44·48	3998·22	Tunnel 185 yards long.
6 61 48	6 63 90	0 2 42	Level	...	...	3998·22	
6 63 90	7 0 00	0 16 10	1 in 99	...	19·72	3987·50	
7 0 00	7 2 00	0 2 00	Level	...	...	3987·50	
7 2 00	7 29 00	0 27 00	1 in 132	...	13·50	3974·00	
7 29 00	7 32 00	0 3 00	Level	...	...	3974·00	
7 32 00	7 76 67	0 44 67	1 in 66	44·67	...	4018·67	
7 67 67	8 5 00	0 8 33	Level	...	...	1418·67	
8 5 00	8 15 00	0 10 00	1 in 198	3·33	...	4022·00	
8 15 00	8 19 00	0 4 00	Level	...	...	4022·00	Tunnel 225 yards long.
8 19 00	8 41 00	0 22 00	1 in 66	...	22·00	4000·00	Talawakele river.
8 41 00	8 59 92	0 18 92	Level	...	...	4000·00	Kotmale river,
8 59 92	8 72 00	0 11 42	1 in 44	17·14	...	4017·14	8 miles 72 chains — 8 miles 71 chains 34 links.

RAILWAY EXTENSION.

FURTHER PAPERS.

REVISED ESTIMATE.—Nos. 1 & 2 Districts, Single Line of Rails, Gauge 5 feet 6 in, Distance 7·484 miles from Kuda-oya to Talawakele.

The cost of the Line is based upon the prices recommended by the Kandy Committee in their Report of July 25th, 1876.

Estimate of Way and Works.	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.
Works.						
District No. 1, (see below) ...	—		—		153,856	16
District No. 2, (see page 5) ...	—		—		702,475	14
	per mile.					
Permanent Way Iron Rails	38,848	0				
Fencing and Draining ...	3,520	0				
Level crossing and Guard House ..	500	0				
Telegraph, &c. ...	600	0				
7·484 miles, at ...	43,468	0	325,314	51		
Add for steel rails, 1 in 44 only ...	—		6,147	0		
			331,461	51		
10 per cent. for sidings	—		33,146	15		
					364,607	66
					1,220,939	0
10 per cent.	—				122,093	90
				Rs...	1,343,032	90

Or. Works, Rs. 179,453·88 per mile.

JUNCTION with Nánu-oya District at 20 miles 22·65 chains from Náwalapitiya.

Rolling Stock, 7,484 (*a* Rs. 20,112·00 ..		150,518·00	
Land and compensation ...		58,284·00	
Station, Rosita,	Rs. 20,000·00		
Station, Talawakele, Rs. 42,500·00 ...		62,500·00	
Supervision during construction, 3 years, 7,484 miles, (*a* Rs. 9000·00		67,356·00	
		338,658·00	
100 per cent. contingencies ...		33,865·00	
			372,523 00

or, Rs. 49,776·00 per mile.

Total Estimate.

Estimate for Way and Works	1,343,032 90	
Rolling Stock, &c, as above	372,523 00	
		1,715,555 90

or, Rs. 229,229·81 per mile.

KUDA-OYA to ROSITA as altered in May, 1877.

12 feet Bridge at 0 mile 16 chains.

			Rs.	Cts.	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.
Masonry ...	274¼	cub. yds. ...	15	00	4,115	00				
Brickwork to Arch ...	36¼	„ ...	20	00	730	00				
Backing to Arch ...	40½	„ ..	10	00	405	00				
Ashlar	196	cub. ft. ...	4	50	294	00				
Excavation	101	cub. yds. ...	1	00	101	00				
							5,645	00		
4 Arched Viaducts at 0 miles 61 chains.										
Masonry in Piers ...	224	cub. yds. ...	20	00	4,480	00				
Abutments and Spandrils ...	178¼	„ ...	18	00	2,675	00				
Brickwork Arching ...	239½	„ ...	20	00	4,790	00				
Backing to Arching ..	154¼	„ ...	10	00	1,542	50				
Ashlar	382	cubs ft. ...	1	50	573	00				
Clay Puddle to arches ...	192	cub. yds. ...	1	00	192	00				
Excavating foundations ..	290	„ ...	1	00	290	00				
Water Piers ...	—	...	—		500	00				
							15,042	50		
[Carried over...									20,687	50

RAILWAY EXTENSION.

KUDA-OYA to Rosita, as altered in May, 1877.—*continued.*

					Rs.	Cts.
				[Brought forward...	20,687	50
Culverts.			Rs. Cts.	Cubic yards.		
5...2 ft. 0 in. by 2 ft. 6 in. ...	248½ cubic yds.		— ...	350		
4 . 2 ft. 6 in. by 3 ft. 0 in. ...	453 „ ...		— ...	681		
Junction with old line at 2 miles 32 chains.						
7...2 ft. 0 in. culverts ...	181 cubic yds.		— ...	250		
1 ..2 ft. 6 in. culverts ...	126 „ ...		— ...	82		
1...Double 2 ft. 0 in. by 2ft. 6 in.	24 „ ...		— ...	37½		
2...Double 2 ft. 6 in. by 3 ft. 0 in.	88½ „ ...		— ...	107		
20			1 0 ...	1,507½	1,507 50	
—	1,118	...	12 0 ..	—	13,416 0	
						14,923 50
2 Retaining walls, masonry...	124⅓ cubic yds.		3 50 ...	—	435 16	
Excavation ...	56 „ ...		1 0 ...	—	56 0	
						491 16
				Total ... Rs.		36,102 16

ABSTRACT.

	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.
Earthwork	—		—		117,754	0
4 arched viaducts	15,042	50				
12 feet arched bridge ...	5,645	0				
			20,687	50		
20 culverts	—		14,923	50		
Retaining walls	—		491	16	36,102	16
			Total ... Rs.		153,856	16

SECOND SECTION.—District No. 2. Rosita to Talawakele.—Length of Line, 5 miles 11 chains, 48 links. Junction with District No. 8 at 29 miles 22 chains 5 links from Nawalapitiya.

Abstract.		Cub. yds.		Rs.	Cts.	Rs.	Cts.
Earthwork Page 24	Rock excavation ...	135,782 @ Rs. 2·00	..	271,564	0		
	Earth excavation ...	148,946 @ „ 0·50	...	74,473	0		
	Side-cutting ...	6,140 @ „ 1·00	..	6,140	0		
Benching in steep banks ...	...	1,173 @ „ 1·00	.	1,173	0		
4 6 miles 57 chains to 7 miles 79 chains ...		2,000 @ „ 0 25	...	500	0		
Extra for transport of material ...		—	...	5,390	50		
Diversion of Government cart road 7 miles 27 chains to 7 miles 35 chains ...		—	..	4,000	0		
Diversion of Level Crossings, &c. ...		—		100	0		
						363,340	50
Tunnels	185 cubic yards, Devon ... / 223 „ Talawakele ...	408 lineal yds. @ Rs. 400				163,200	0
Masonry.							
Dry retaining walls, page 17 ...		—	...	35,494	82		
Square culverts, page 12 ...		—	..	23,146	64		
						58,641	46
M. C. Arched culverts at :—		Rs. Cts.					
4 74 page 6 ...		1,283 16					
5 68 Rest-house „ ...		8,610 50		11,080	49	11,080	49
8 04 „ ...		1,186 83					
Bridges at :—							
5 60 Turnpike at Rest-house, page 7 ...		8,717 0					
3 59 3 arched at Devon Estate „ ...		12,321 33					
8 41 15 ft. arched, Talawakele Bank „ ...		12,911 80					
			...	—		34,150	13
Iron viaducts at :—							
5 42 Kotagal-oya river page 6 ...		—	...	12,697	50		
8 58 Talawakele viaduct over Kotmale Ganga page 7 ...		—	....	59,365	10		
						72,062	60
				Total ... Rs.		703,475	18

RAILWAY EXTENSION.

FURTHER PAPERS.

ROSITA TO TALAWAKELE.

See Alinegations sent in February Estimate.

Abstract of Square Culverts.

		Rs.	Cts.	Rs.	Cts.
12	2 feet by 2 feet 6 inches	5,250	0		
2	2 feet 6 inches by 3 feet	1,088	0		
3	3 feet by 3 feet 6 inches ...	2,949	0		
1	double 2 feet by 2 feet 6 inches	640	0		
5	double 2 feet 6 inches by 3 feet	3,914	0		
13	culverts 5 miles 58 chains to 7 miles 79 chains ...	6,921	14		
	Additional work to walls and head walls to culverts in steep banks	2,384	50		
	Total Rs			23,146	64

Arched Culverts at 4 miles 74 chains 6 feet Culverts Rosita.

			Rate Rs. Cts.	Rs.	Cts.
Rubble masonry in mortar ...	67½ c. yds. ...	15 0 ...	1,012	50
Arched brickwork	6½ „ ...	20 0 ...	130	0
Backing ...	5⅔ „ ...	10 0 ...	56	66
Ashlar ...	11⅓ c. feet ...	1 50 ...	17	0
Excavation ...	67 c. yds. ...	1 0 ...	67	0
		Total Rs...	1,283	16

5 feet Culvert at 5 miles 66 chains.

			Rate. Rs. Cts.	Rs.	Cts.	Rs.	Cts.
Masonry ...	326 c. yds. ...	15 0 ...	4,890	0			
Ashlar	147¼ c. feet ...	1.50 ...	220	50			
Arch ...	70 c. yds. ...	20 0 ...	1,400	0			
Backing ...	80 „ ...	10 0 ...	800	0			
Excavation in rock ...	150 „ ...	2 0 ...	300	0			
Backing up culverts ...	— ...	— ...	1,000	0			
			Total Rs...			8,610	50

5 feet Culvert at Talawakele Tunnel at 8 miles 14½ chains.

			Rate. Rs. Cts.	Rs.	Cts.	Rs.	Cts.
Rubble masonry ...	35½ c. yds. ...	15 0 ...	532	50			
Arch ...	4½ „ ...	20 0 ...	90	0			
Backing ...	4⅓ „ ...	10 0 ...	43	33			
Ashlar ...	14 c. feet ...	1.50 ...	21	0			
Stream diversion ...	— ...	— ...	500	0			
			Total Rs...			1,186	83

Viaduct at 5 miles 42 chains.

			Rate. Rs Cts.	Rs.	Cts.	Rs.	Cts.
Viaduct over Katagal-oya river near Craigie Lea rest-house, 23 feet high; 2·40 feet span, plate girders being 2·4.							
Rubble masonry double-faced to piers ...	78 c. yds. ...	20 0 ...	1,560	0			
Do. single-faced to abutments...	387⅓ „ ...	15 0 ...	5,810	0			
Ashlar ...	253 c. feet ...	1 50 ...	379	0			
4/44·8 plate girders ...	12 tons ..	350 0 ...	4,200	0			
Holding-down bolts wrought iron sleepers ...	360 lbs. ...	0 20 ...	72	0			
Cast iron bearing plates	16¾ cwts. ...	8 0 ...	134	0			
Wrought iron holding-down plates	91 lbs. ...	0 20 ...	18	20			
6 steel rollers 18:3 diameter ...	216 „ ...	0 30 ...	64	80			
Timber ...	146 c. feet. ...	1 50 ..	219	0			
Longitudinal beams, &c., and extra timber tresleepers and planking.	160 c. feet. ...	1 50 ...	240	0			
						12,697	50

Bridge under Turnpike road at Craigie Lea.

5 miles 60 chains, 3 plate girders, 22·6 span in 15 ft. cutting.

		Rate. Rs.	Cts.	Rs.	Cts.
Masonry	232½ c. yds.	15	0	3,487	50
Ashlar	132 c. ft.	1	50	198	0
Excavation	110 c. yds.	1	0	110	0
3 iron plate girders, 26·8 long 1·9 high	5 tons	350	0	1,750	0
6 wrought iron plates for bolts	66½ lbs.	0	20	13	30
6 cast-iron bearing plates	2 cwts.	13	0	26	0
12 holding-down bolts 42 × 1¼	141 lbs.	0	20	28	20
2 wrought iron string for parapet under road	54 „	6	0	324	0
Wrought iron string parapet, &c.	162 sq. ft.	3	0	486	0
Hard wood floor	184 „	1	50	276	0
Rolled iron cross beams	1 1/5 tons	200	0	240	0
Corrugated iron floor	272 sq. ft.	1	0	272	0
Diversion of road, excavating and metalling	—	—		1,506	0
			Total ... Rs		8,717	0

Arched Bridge at Devon Waterfall at 3 miles 59 chains.

3 Arch 30 feet span in 42 feet bank.

Masonry in abutments	168 c. yds.	15	0	2,520	0
Do. in piers	149 „	20	0	2,980	0
Do. in backing	52 „	10	0	520	0
Brick arches	178⅔ „	20	0	3,573	33
Ashlar	862 c. ft.	1	50	1,293	0
Excavation of foundation	169 c. yds.	1	0	169	0
River diversion	733 „	2	0	1,466	0
			Total ... Rs.	12,521	33

15 feet Arch in Talawakele Embankment at 8·41—38·6 Bank.

Rubble masonry	586 c. yds.	15	0	8,790	0
Do. backing to arch and counterforts	88⅓ „	10	0	883	30
Arch Brickwork	109½ „	20	0	2,190	0
Ashlar, string and coping	259 c. ft.	1	50	388	50
Excavation foundation	360 c. yds.	1	0	360	0
River diversion	300 „	1	0	300	0
			Total ... Rs.	12,911	80

ABSTRACT.

	Rs.	Cts.
Bridge at 5 miles 60 chains, rest-house	8,717	0
Do. at 3 miles 59 chains, 3 arch bridge	12,521	33
Do. at 8 chains 41 miles, 15 feet arch, Talawakele	12,911	80
Total ... Rs.	34,150	13

Talawakele Viaduct.

		Rate. Rs.	Cts.	Rs.	Cts.		
Double-faced masonry	1024 cub. yds.	20	0	20,480	0		
Single-faced masonry	214 „	15	0	3,210	0		
Backing	50 „	10	0	500	0		
Arch brickwork	60 „	20	0	1,200	0		
Foundations	300 „	1	0	300	0		
Ashlar	424 c. ft.	1	50	636	0		
Two water foundations	...	...		5,000	0		
						31,326	0
Upper Works.							
Four pairs lattice girders 60 feet span, 29 bearing	74 tons	350	0	25,900	0		
Cast iron bearing plates	37½ cwts.	10	0	735	0		
Border plates for bolts	363 lbs.	0	10	36	30		
Bolts ...	1823 „	0	20	364	60		
Three steel rollers under girders	864 „	0	30	259	20		
Longitudinal sleepers and roadway	496 c. ft.	1	50	744	0		
						28,039	10
			Total ... Rs.			59,365	10

RAILWAY EXTENSION.

Dry Retaining Walls* at

M. C.	M. C.		Cubic yards.	Rate.	Rs.	Cts.
	3 75	Below formation	546			
4 12	and 4 13	From formation	268·40			
	4 21	Do.	78·20			
4 66·50	to 4 70·50	Do.	274·20			
4 73	to 5 8	Do.	1400·00			
5 20·30	to 5 25	Do.	418·20			
5 52·80	to 5 54·30	Do.	275·00			
5 56½	to 5 59½	Do. 3 feet top	699·00			
5 72·60	to 5 77·50	Do.	514·71			
6 2	to 6 3	Do.	400·00			
6 7	to 6 10	Do.	437·00			
6 10	to 6 15·70	Do.	590·00			
8 3½	to 8 9	Do.	887·00			
		Cubic yards	6787·71	3 50	23,757	0
6 57	to 7 79	Four walls	1815·33	4 00	7,261	32
5 66	and 6 2	Base of walls in mortar	·560	6 50	3,640	0
		Provide for extra walls	239	3 50	836	50
				Total ... Rs.	35,494	82

Rosita to Talawakele.

Land.

		Rs.	Rs.	Cts.	Rs.	Cts.
1st Mile Jungle	8 acres	200	1,600	0		
6·484 Coffee	51·872	900	46,684	0		
					48,284	0
Compensation to Estates	—	—	—		10,000	0
				Rs.	58,284	0

Stations.

	c. yds.	Rs.				
Talawakele:—						
Excavation	10,000	1·25	12,500	0		
Goods station	—	—	10,000	0		
Passenger station	—	—	10,000	0		
Turntable, crossings, and tank	—	—	10,000	0		
					42,500	0
Rosita station	—	—	—		20,000	0
				Rs.	62,500	0

No. 2.

The Chief Engineer, Railway Extension, to the Hon'ble the Colonial Secretary.

No. 129. Nawalapitiya, 11th July, 1878.

Revised Estimate Kudá-oya to Talawakele.

No. 106 of 10th June, 1878.

Sir,—With reference to my letter to your address intimating my intention of revising Mr. Mayes' estimate, Kudá-oya to Talawakele, dated 26th March, 1878, I have the honor to submit the following remarks.

2. Circumstances which have recently arisen as regards Mr. Mayes' work have convinced me of the necessity of revising this portion of the line, and Mr. Waring having, with the exception of one district, framed all the estimates of works from Nawalapitiya to Haputale, it appeared to me very desirable that he should frame this estimate also; the more so as he would then be intimately acquainted with all works to be included in the Nanu-oya contract.

1 Section.
4 Drawings of bridges.
Mr. Waring's Report and Estimate, No. 126a, 8th July, 1878.
Appendices to ditto.
Para. 4 of Report No. 41, 29th September, 1877.

3. I have therefore the honor to enclose for transmission to the Consulting Engineer the papers noted in the margin, and to report briefly as follows:—

4. Reference to para. 4 and paras. 8 to 10 of my report No. 41 of 29th September, 1877,* will shew that it was always considered desirable to make sundry alterations in Mr. Mayes' plans, but that in consequence of more pressing work the staff were not then available for that duty, although subsequently the improvement proposed from 7th to 8th mile was carried out by Mr. Waring, as reported in my letter to your address No. 84 of 15th December, 1877.

5. The staff are still so fully occupied that the improvements in the *curves* referred to in that report have not yet been effected; but they will be carried out as soon as the

* See Sessional Paper VI. of 1877.

engineers have completed the alterations required on the Ambagamuwa route, including the Hatton deviation; and if in the meantime the contract be let for a lump or guaranteed sum, I would suggest that it contain a clause providing without any additional payment for the increase of these curves to a radius of 6·36 chains.

6. The object of the revision undertaken by Mr. Waring on this district was—

1st.—By improving the gradients to reduce the quantity of earthwork.

2nd.—To improve the design of bridges.

3rd.—To render the estimate similar in particulars to those framed for other districts.

7. As Mr. Waring's report annexed enters fully into the details of the revision, it will suffice to state the comparative results. No 126 A, 8th July, 1877.

Kudá-oya to Talawakele, distance 7·457 miles:—

	Mr. Waring's Estimate.	Mr. William Mayes' Estimate, 26th March, 1878.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
Way and Works ...	1,263,236 ...	1,343,033 ...	— ...	79,797
Net decrease per mile Rs. 10,701.				
Land, stations, supervision, and rolling stock	426,992 ...	372,523 ...	54,469 ...	—
Totals . Rs.	1,690,228 ...	1,715,556 ...	— .	25,328
Total per mile .. Rs.	226,663 ...	230,060	—	3,397

8. Having already expressed the opinion that about 10,000 rupees per mile should be saved on the earthwork, the above decrease (79,797 rupees) is very satisfactory, and the increase in Mr. Waring's estimate, amounting to 54,469 rupees on land, station, supervision, and rolling stock, does not arise from increased quantities, but from providing for more ample bridges, for steel rails throughout instead of only in part, and generally for a class of work superior to that contemplated by Mr. Mayes. See letter to Colonial Secretary, No. 106 of 10th June, 1878.

9. Although the total decrease of Mr. Waring's estimate is only 25,328 rupees, or 3,397 rupees per mile, as compared with Mr. Mayes' estimate of 26th March, 1878, I have confidence in Mr. Waring's figures, and therefore recommend their adoption.

10. Mr. Waring will take to England, on the 31st instant, the longitudinal section and drawings of Bridges here referred to.

I have, &c.,
J. R. MOSSE, M. INST. C.E.

Enclosure in No. 2.

Mr. WARING to Mr. MOSSE.

No. 126 A.

Ceylon Government Railway Extension,
Nuwara Eliya, 8th July, 1878.

SIR,—IN accordance with the instructions contained in your letter of the 18th ultimo, I have the honor to inform you that I have visited Dimbula, and carefully examined Mr. W. M. Mayes' line between Kudá-oya and Talawakele, at several points, with a view to the improvement and lengthening of the gradients and altering them so as to reduce the earthworks; and now beg to forward the following report upon and estimate for the line so revised, accompanied with a longitudinal section and four drawings of bridges.

2. The revised gradients are shewn on the section by a red full line, and the original gradients adopted by Mr. Mayes by a blue dotted line. Where the red line only is marked no alteration has been made.

3. It will be understood that as I did not set out or level any part of the line except the deviation upon the 8th mile, to which allusion will be made further on, I am in no way responsible for its direction, nor for the longitudinal section sent herewith, which latter has merely been re-plotted from that of Mr. Mayes and the revised gradients marked thereon. I have however no reason to doubt their correctness.

4. I have altered the gradients between the under-mentioned points:—from 0 miles 0 chains (Kudá-oya Gap) to 5 miles 73 chains; from 6 miles 46 chains to 6 miles 72 chains; from 7 miles 79 chains to 8 miles 19 chains.

5. The principal of these alterations are at the following places.—

1st.—Between 3 miles 45 chains and 3 miles 64 chains through Rosita station; the gradient here has been raised about 4½ feet, and in consequence, the heavy cutting which appears on Mr. Mayes' section between 3 miles 51 chains and 3 miles 60 chains, much reduced.

RAILWAY EXTENSION.

FURTHER PAPERS.

2nd.—Between 4 miles 66 chains and 5 miles 6 chains the line has been raised somewhat so as to be more out of the reach of floods in the Kotagal-oya, which is here parallel and close to the railway.

3rd.—Between 5 miles 45 chains and 5 miles 73 chains, where, instead of first falling rapidly and then rising again, which entailed a diversion of, and a bridge under, the Nawalapitiya and Dunkola road, a uniform gradient of 1 in 165 has been adopted: this will avoid the diversion of and the bridge under the road, which now can be passed on the level.

6. These alterations in the formation level naturally entail alterations of the bridges also. The following are the bridges altered, and my reasons for the plans adopted. The bridges as altered resemble generally in type those on the Great Western and other districts on which I have reported.

Sessional Paper VI. of 1877, page 14.

1st.—The Wangiriya bridge at 0 miles 61·50 chains.—Mr. Mayes' bridge here was one of four 30-feet arches; one of the piers of this was shewn by the drawing to be built almost in the centre of the stream; this I consider objectionable. Formation level at this point is raised about 2½ feet. I have designed for this a viaduct of one 60-feet and two 30-feet girder spans (see drawing No. 1); as the line here is straight, cross girders are dispensed with, and the rails are fixed to longitudinal timbers on the top of the main girders.

2nd. The bridge over the Kotagala-oya at 5 miles 41 chains.—Mr. Mayes' bridge here was one of two 40-feet spans with a masonry pier in the centre of the river, the roadway being carried on the top of the girders. The clear headway was 19 feet 6 inches.

The Kotagala-oya in the great flood of May last year brought down large quantities of timber, and I therefore considered it better to cross the stream with a single span than to incur the risk of a large tree coming down and lodging with one end on the abutment and the other against the pier, thus forming the nucleus of a dam of timber which might destroy the bridge. I have therefore designed for this an 80-feet girder bridge (see drawing No. 2); as, owing to the necessary greater depth of girders, the headway would be barely sufficient if the road were on the top, I have arranged for the railway to pass between the girders. This and the bridge across the Mahawilli-ganga near Nawalapitiya are the only bridges on the line where the roadway is not carried on the tops of the girders.

Sessional Paper XLIV of 1877, page 21

3rd.—The bridge at 6 miles 59 chains.—Mr. Mayes here had three 30-feet arches. Formation level at this point has been raised 1½ feet. As the ground is very precipitous, and the line is on a curve, I have altered this to one 80-feet girder span with the road on the top (see drawing No. 3).

4th.—The Talawakele bridge over the Kotmale-ganga, at 8 miles 58 chains.—This was one of four 60-feet girder spans and two 20-feet land arches. I have altered this bridge to one of two 80-feet and two 60-feet spans, dispensing with the arches at the ends (see drawing No. 4.)

Earthworks.

7. The embankments are 18 feet wide at the top, and when all earth have slopes of 1½ to 1; in all other cases the slopes are 1½ to 1. The cuttings, when all rock, have a base of 16 feet with slopes of ¼ to 1: in all other cases the base is 20 feet wide and the slopes are varied in accordance with the supposed nature of the material. When all earth, they are 1 to 1. The earthwork quantities have been calculated from the section and varying per-centages added to cover the increase caused by side-long ground. All rock has been estimated as increasing 50 per cent. in volume when taken out and placed in embankments, on which estimate the distribution of earthwork has been arranged.

Culverts.

8. Mr. Mayes had several 2-feet culverts on his line. I have altered them in all cases to 2 feet 6 inches, this being the smallest opening I have used on the other districts of which I have lately been in charge. The total linear feet of waterway provided, including all openings of and under 16 feet span, is 215 feet, or 28·82 feet per mile. This it will be noticed is very much less than what I have provided on other districts. My slight knowledge of this part of the line does not, I consider, justify me in altering the waterway to any great extent: but from my experience of other districts, I am disposed to think that in construction it will be necessary to increase it.

Estimate.

Appendix A.

9. The following is my estimate for the line under consideration with the revised gradients; full details of this will be found in the appendix. In this is included that for the deviation recommended by you in your report of April 10th, 1877, which was staked out and estimated for by me in the autumn of last year. (For a description of this deviation see my report No. 59 of 10th December, 1877.)

The estimate is based upon the prices recommended by the Kandy Committee in their report of 25th July, 1876; and to it I have appended for comparison an abstract of Mr. Mayes' estimate.

KUDÁ-OYA TO TALAWAKELE.—Length of Line 7 miles 36·53 chains = 7·456625 miles (say 7·457 miles.)

Way and Works.

Description.	Quantities	Rate.	Amount of present Estimate.	Amount of Mr. Mayes' Estimate.	Increase.	Decrease
		Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
Earthwork.—Rock cuttings, cub. yds.	150,421	2 0	300,842 0	359,638 0		58,796 0
Earth do. do. ...	182,388	0 50	91,194 0	103,756 0	...	12,562 0
Side do. do. ...	7,212	1 0	7,212 0	6,140 0	1,072 0	—
Benching do. ...	15,000	0 25	3,750 0	2,069 50	1,680 50	
Foundations (included in bridges and culverts)...	...	...	...	...	—	
Diversion of Government cart road at 7 miles 27 chains and 7 miles 35 chains	...	...	4,000 0	4,000 0	...	
Tunnels.—(See Appendix A 2) ...	...	...	164,340 0	163,200 0	1,140 0	
Flat-topped culverts (see Appendix A 3)	...	...	33,263 51	38,070 14	...	4,806 63
Arched and open culverts (see Appendix A 4)	...	...	19,595 18	29,637 29	...	10,042 11
Dry Retaining Walls (see Appendix A 5)	..	...	34,942 92	35,985 98	...	1,043 6
Bridges, Wangi-oya Drawing No. 1, (see Appendix A 6) ..	...	..	22,892 73	15,042 50	7,850 23	
Kotagal-oya Drawing No. 2, (see Appendix A 7) ..	...	...	20,711 88	12,697 50	8,014 38	
Road bridge at 5 miles 60 chains (dispensed with on present line) . ..	...	...	...	8,717 0	...	8,717 0
Bridge at 6 miles 59 chains see drawing No. 3, (see Appendix A 8)	...	..	15,768 64	12,521 33	3,247 31	
Kotmale-ganga Drawing No. 4 (see Appendix A 9)	...	...	71,495 98	59,365 10	12,130 88	
	Miles					
Permanent Way (steel rails throughout, Appendix A 10) at per mile..	7·457	42,116 3	314,059 21			
Fencing do. do ..	7·457	3,000 0	22,371 0			
Level crossings in Coffee Estates do. do .	7 457	500 0	3,728 50	364,607 66		20,720 42
Telegraph do. do...	7·457	500 0	3,728 50			
Miscellaneous (see Appendix A 11) .. .	...	...	14,500 0	5,491 0	9,009 0	
			1,148,396 8	1,220,939 0	44,144 30	116,687 22
Add for Contingencies ...	...	..	114,839 92	122,093 90	4,414 70	11,668 68
Total...Rs.	...	...	1,263,236 0	1,343,032 90	48,559 0	128,355 90
Or, per mile...Rs.	...	...	169,402 72	180,103 65		

Nett decrease ... ...Rs. 79,796·90
Or, per mile ... ... „ 10,700·93

LAND, STATIONS, ENGINEERING, SUPERVISION, AND ROLLING STOCK.

Description	Quantities	Rate.	Amount of present estimate.	Amount of Mr. Mayes' Estimate.	Increase.	Decrease.
		Rs Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
Land (taken at ten acres per mile) and Compensation.						
One mile of forest ...	10 acres	200 0	2,000 0	1,600 0	400 0	
Six and a-half miles of coffee	65 acres	1,000 0	65,000 0	56,684 0	8,316 0	
Stations:						
Rosita	...	.	30,000 0	20,000 0	10,000 0	
Talawakele	...	...	60,000 0	42,500 0	17,500 0	
Rolling stock, at per mile ...	7·50 miles	22,490 0	168,675 0	150,518 0	18,157 0	
Engineering supervision, at per mile	7·50 „	8,333 33	62,500 0	67,356 0	—	4,856 0
			388,175 0	338,658 0	54,373 0	4,856 0
Add for contingencies ...			38,817 0	33,865 0	5,437 0	485 0
Total . Rs.			426,992 0	372,523 0	59,810 0	5,341 0
Or, per mile ... Rs.			57,260 56	49,956 15		

Nett Increase Rs. 54,469 0
Or, per mile ... „ 7,304 41

	Present estimate.	Mr. Mayes' estimate.
Total amount, Way and Works ...	Rs. 1,253,236 0	... Rs. 1,343,032 90
Land, Stations, &c. ...	„ 426,992 0	. „ 372,523 0
Grand Total ..	Rs. 1,690,228 0	... Rs. 1,715,555 90
Per mile . .	Rs. 226,663 28	... Rs. 230,059 80
Nett Total Decrease ...	„ 25,327 90	or per mile „ 3,396 52

10. A reference to Mr. Mayes' estimate, which was sent in on March 26th, 1878, will shew that I have altered the mileage rates slightly. This I have done as I found they had been calculated on the original length of the line, which was 7·484 miles, whereas the estimate provides for the line over the deviation, which is 2·16 chains or ·027 of a mile shorter, thus reducing the length of the line to 7·457 miles.

11. I have in the foregoing estimate included "telegraph" under the head of way and works for the sake of a ready comparison being made. It will be observed that the items of earthwork, culverts, retaining walls, permanent way, and supervision shew decreases, while bridges, tunnels and miscellaneous, land, stations, and rolling stock shew increases.

12. The reasons for these differences are as follows: —

The saving in earthwork is entirely due to the alteration of the gradients; the cuttings being less, the embankments are of course higher, and this it might be expected would cause an increase in the item of culverts, but the contrary is the case, owing to the fact that Mr. Mayes has apparently calculated the lengths of his culverts from cross-sections where the embankments have slopes of 1½ to 1; whereas in mixed material the slopes should be 1¼ to 1 only. The decrease in length of the culverts from this cause more than counterbalances the increased length due to the additional height of the banks. The same reasons account for the decrease in retaining walls, coupled with the fact, that the alteration in gradients between 5 miles 18 chains and 5 miles 60 chains has enabled us to dispense with heavy retaining walls, which would have been necessary for the diversion of the Government cart road.

13. The reasons for the decrease in the total of the estimate for permanent way, &c., although I have adopted steel instead of iron rails, are as follows:—

1st.—I have taken a somewhat less price per mile for fencing and telegraph, which is, however, I think, an ample one.

2nd.—The fact that Mr. Mayes has added the items of permanent way, fencing, telegraph, and level crossings together, and then added 10 per cent. to the total for sidings, whereas it is evident that the three latter items would not be affected by the length of sidings.

3rd.—The fact that Mr. Mayes has taken for his permanent way estimate of 38,848 rupees per mile, one framed by Mr. Macpair, to which the 10 per cent. has already been added. Mr. Mayes has therefore really added 20 per cent. for sidings. To support this statement I append a copy of Mr. Macmar's estimate referred to.

14. I have taken the item of supervision at the same rate as on the Great Western district; this is somewhat lower than that adopted by Mr. Mayes.

15. Considering now the items which shew increases, that in tunnels is principally accounted for by the fact that I have taken the Talawakele tunnel as 2½ yards longer than Mr. Mayes'.

16. The increase in bridges is owing to the fact that I have estimated for cross girders, &c. Mr. Mayes shews these on his drawings, but, as far as I can see, they are not provided for in the estimate. The substitution of iron bridges for stone viaducts at 0 miles 61 chains and at 6 miles 59 chains appears to have increased the estimate, but though I cannot speak confidently—not having gone into the details—I think Mr. Mayes' estimate for these must have been somewhat low.

17. The increase in the item "Land" is owing to the fact that I have estimated for ten acres being required per mile instead of eight acres as taken by Mr. Mayes. On a line where the earthworks are heavy and the slope of the hills steep, I do not consider eight acres per mile sufficient.

18. The increased price for stations is that recommended by you in your report of 29th September, 1877, paragraph 15. If, owing to the extension of the 1 in 41 gradient beyond Kudá-oya gap, it be decided to detach the extra incline engine at Rosita, I should say that 20,000 rupees should be added to my estimate for that station to cover the cost of turn-table, engine-shed, &c.; but as that amount would be deducted from the sum allowed for Kudá-oya station, the gross amount of the estimate for the line would not be affected.

Sessional Paper VI. of 1877, page 5.

Sessional Paper XLIV. of 1877, page 7

19. I have taken the item of rolling stock at approximately the same rate as that on other districts on which I have lately reported. This price is 2,378 rupees per mile higher than that taken by Mr. Mayes.

20. Lastly, the increase in the item "miscellaneous" is because, though a cart-road throughout will not be necessary on this district, as the line is more or less parallel to Government cart-roads the whole way; yet I have allowed for the construction of an aggregate length of two miles of branch roads leading to the works at different points.

21. To have estimated for iron instead of steel rails would have reduced the estimate by a further sum of 46,402 rupees and 66 cents, thus raising the total saving to 71,730 rupees and 56 cents.

22. I have appended a list of straights and curves and a table of the revised gradients made out in the same form as that I have used on other districts, as well as a table of quantities and distribution of earthwork made out in a form similar to that adopted by the Consulting Engineer for the Matale railway.

Appendices C., D., and E.

I have, &c.,

F. J. WARING, A.I.C.E.,

Senior Assistant Engineer.

APPENDIX.

A. 1.

KUDÁ-OYA TO TALAWAKELE DISTRICT.—*Earthwork Estimate.*

Mileage.	Rock cuttings c. yds.	Earth cuttings c. yds.	Side cuttings c. yds.	Embankments c. yds.
0 miles 0 chains to 3 miles 16¾ chains ...	31,860 ...	42,037 ...	— ...	72,361
3 „ 16¾ „ to 4 „ 69¾ „ ...	20,804 ...	35,835 ...	— ...	47,318
4 „ 69¾ „ to 6 „ 19 „ ...	34,317 ...	27,656 ...	1,072 ...	44,902
6 „ 27½ „ to 6 „ 69½ „ ...	17,139 ...	18,362 ...	— ...	14,649
6 „ 69½ „ to 7 „ 78 „ ...	10,345 ...	28,744 ...	6,140 ...	49,619
7 „ 78 „ to 8 „ 72 „ ...	35,956 ...	29,754 ...	— ...	44,516
Total, cubic yards ..	150,421	182,388	7,212	273,365

Estimate.

		Rs.	Cts.
150,421 cubic yards of Rock-cutting at Rs. 2·00 per cubic yard ...		300,842	00
182,388 „ of Earth-cutting at „ 0·50 „ ...		91,194	00
7,212 „ of Side-cutting at „ 1·00 „ ...		7,212	00
15,000 „ of Benching at „ 0·25 „ ...		3,750	00
Total ...	Rs.	402,998	00

A 2.

KUDA-OYA TO TALAWAKELE.—*Tunnels Estimate.*

From	To	Length	Length	Remarks	Description.	Quantities. c. yards.	Rate per c. yd.	Amount	Total.
C.	M C.	chains	Yards				Rs.	Rs.	Rs.
19	6 27½	5 50	187·00	2 chains lined	Excavation in 44 yds. lined tunnel at 40 c y ls. per yd. run	1760·0	10	17600	
					„ 133 unlined „ 31 „	4433·0	10	44330	
					Masonry 44 lined „ 10 „	440·0	30	13200	75130
17·25	8 27 50	10·25	225·50	2¼ chains lined	Excavation in 49 50 lined „ 40 „	1980·0	10	19800	
					„ 176·0 unlined „ 31 „	5456·0	10	54560	
					Masonry 49 50 lined „ 10 „	495·0	30	14850	89210
Total	Lengths..	15 75	412·50			Total	Rs.	—	164340

A 3.

FLAT-TOPPED CULVERTS—*Quantities and Estimate.*

Mileage. miles.	chs	Description. ft. in.	Height of Bank. ft	in.	Length of Culvert. ft.	in.	Excavation for Foundations.
9 60	...	2 6 square culvert ...	18	0	68	0	11·82
29·50	...	2 6 „	29	6	90	0	14 90
36 45	...	2 6 „	28	0	62	0	10·98
38 95	..	2 6 „	20	6	69	0	11·96
48 65	..	2 6 „ ...	31	0	88	0	14·62
54 30	..	2 6 „	23	0	80	0	13·50
68·25	...	2 6 „ ...	22	0	75	0	12 80
69 45	...	2 6 „	28	0	88	0	14 62
71·30	...	2 6 „	23	0	68	0	11·82
38·0	...	2 6 „ ...	17	6	57	0	10·28
41 50	.	2 6 „ ...	16	0	49	0	9 16
44·80	.	2 6 „ ...	6	0	32	0	6·78
48·57	..	2 6 „	14	0	57	0	25·00
60·55	..	2 6 „	11	0	38	0	7·62
63·75	...	2 6 „ ...	10	0	36	0	7 34
66·56	.	2 6 „	5	0 cutting..	20	0	30·00
8·00	...	double 2 ft. 6 in. sq. culvert ...	6	0	26	0	9·22
15 20	..	2 6 square culvert	10	6	36	0	7·34
41·85		double 2 ft. 6 in. sq. culvert ...	9	6	36	0	8 42
49 33		double 2 ft. 6 in. „ ...	12	6	43	0	12·96
66·00		double 2 ft. 6 in. „ ...	9	0	35	0	11·20
		ft. in.					
74 75	...	2 6 square culvert ...	29	0	90	0	14·90
3 90	..	2 6 „ ...	10	0	37	0	7·48
14·70	..	2 6 „ ...	10	0	42	0	8·18
31·25	.	double 2 ft. 6 in. sq. culvert ..	38	0	105	0	26·60
		ft. in.					
38·00	..	2 6 square culvert ...	21	0	63	0	11·12
45·70	.	2 6 „ ..	14	0	47	0	8·88
61·00	..	double 2 ft. 6 in. sq culvert ...	18	0	50	0	14·50
0 45	.	double 2 ft 6 in. „ ...	11	0	25	0	10·00
9·00	.	double 2 ft. 6 in. „ ..	13	6	31	0	10 32
		ft. in.					
13·15	...	2 6 square culverts ...	13	0	43	0	8·32
33·45	...	2 6 „ ...	22	0	57	0	10·28
52·00	.	2 6 „ ...	14	0	46	0	8·54
61 00	.	2 6 „ ..	22	0	50	0	9·30
75 40	.	2 6 „ ..	10	6	25	0	30·00
8·00	...	2 6 „ ...	18	0	92	0	40 00
17·65	..	2 6 „ ...	4	6 cutting	20	0	30·00
48·22	...	3 0 „ ...	10	0	71	0	20·00
50·60	...	3 0 „ ..	18	6	70	0	12·80
70·60	...	2 6 „ ..	9	0	34	0	7·06
0·15	..	2 6 „ .	10	6	37	0	7·39
4·65	..	2 6 „ ..	13	0	46	0	8 54
7·30	...	2 6 „ .	11	0	41	0	8 04
11 70	...	2 6 „ .	4	0	21	0	5·24
24·50		2 6 „ ...	14	0	30	0	6·50
31·60	.	2 6 „ ...	34	0	95	0	15·60
32·70	...	2 6 „ .	33	0	92	0	15 18
41 30	...	2 6 „ ...	lowered		18	0	4·82
46·40	...	3 0 „ ...	21	0	83	0	14·75
48·60	...	2 6 „ ...	6	0	31	0	6·64
55 00	...	2 6 „ ...	19	0	72	0	12 38
71·00	..	2 6 „ ...	18	0	96	0	15·74
78·00	...	double 2 ft. 6 in. sq. culvert ..	1	0 cutting	20	0	10 00
4·36	...	2 6 square culvert ..	21	0	85	0	14·20
7·28	...	2 6 „ ...	31	0	91	0	15 04
31·80	..	2 6 „ ...	2	0 cutting	20	0	15 00
51·35	...	3 0 „ ...	26	0	79	0	13·45
					Excavation, Total cubic yards..		742·13

Estimate for Flat-topped Culverts.

Rubble Masonry.	Each cubic yards.	Total cubic yards.	Rates Rs. Cts.	Amount Rs. Cts.
In ends of four 3 ft. 0 in. culverts ...	1·69 ..	6·76		
„ Walls „ 303 feet run.	0·89 ..	269·67		
In ends of nine double 2 ft. 6 in. culverts...	2 65 ...	23·85		
„ Walls „ 371 ft. run. ...	1·207 ...	447·79		
In ends of forty-four 2 ft. 6 in. culverts ...	1·57 ...	69·08		
„ Walls „ 2434 ft. run. ...	0·73 ...	1776 82		
		2593·97	12 00	31,127 64
Concrete.				
In 303 ft. run. of 3 ft. 0 in. culverts ...	0·074 ...	22·42 ..	—	
„ 371 „ double 2 ft. 6 in culverts ...	0·113 ...	41·92		
„ 2434 „ single 2 ft 6 in. ..	0·069 ...	167·95		
		232 29 ...	6 00 ...	1,393 74
Excavation for foundations	— ...	742·13 ...	1 00 ...	742 13
			Total—Rs.	33,263 51

A 3.

ARCHED AND OPEN CULVERTS.

Mileage.		Description.		Height of Bank		Length of Culvert		Excavation for Foundations.	Remarks.
Arched Culverts.									
M.	C.	ft.	in.	ft.	in.	ft.	in.		
0	16·20 ...	12	0 arch ..	26	0 ...	47	0 ...	26·39	
5	66·10 ...	8	0 „ ...	45	0 ...	115	0 ...	40·50	
8	41·00 ...	16	0 „ ...	39	0 ...	52	0 ..	36·80	
				Total excavation, cubic yards ..				103·69	
Open Culverts.									
M.	C.	ft.	in.	ft.	in.	ft.	in.		
4	74·50 ...	6	0 span ...	12	0 ...	18	0 ..	14·40	
8	14·50 ...	6	0 „ ...	1	0 cut.	20	0 ...	53·00	
							..	50·00 for inlet and outlet.	
				Total excavation, cubic yards. ..				117·40	

A 4.

ARCHED CULVERTS—Quantities and Estimate.

	Each cubic yards.	Total c. yards.	Rate. Rs. Cts.	Amount. Rs. Cts.
Rubble Masonry.				
In one 16 ft. 0 in. culvert ends and wings ...	195·48 ...	195·48		
„ „ culvert 52 ft. run. of abutments	3·216 ..	167·23		
In one 12 ft. 0 in. culvert ends and wings	110·55 ...	110·55		
„ „ 47 ft. run of abutments	2·426 ...	114·02		
In one 8 ft. 0 in. culvert ends and wings	51·79 ...	51·79		
„ „ 115 ft. run. of abutments	1·28 ...	147·20		
In one 6 ft. 0 in. open culvert 12 ft. 0 in. bank ends and wings . .	51·79 ...	51·79		
„ „ 18 ft. run. of abutments	2·426 ...	43·67		
1 ft. cutting	— ...	30·00		
		911·73 ...	15 00 ...	13,675 95
	Carried over...	—	15 00	13,675 95

RAILWAY EXTENSION.

FURTHER PAPERS.

ARCHED CULVERTS.—*continued.*

	Each cubic yard.		Total cubic yards.		Rate. Rs. Cts.		Amount. Rs. Cts.
Brought forward	...		...	—	15 0	—	13,675 95
Backing to Arches.							
In one 16 ft. 0 in. culvert 52 ft. run.	1·27	—	66·04				
„ 12 ft. 0 in. „ 47 ft. „	0·817	—	38·40				
„ 8 ft. 0 in. „ 115 ft. „	0·417	—	47·96				
			152·40	—	10 00	—	1,524 00
Masonry or Brickwork in Arches.							
In one 16 ft. 0 in. culvert 52 ft. run.	1·528	—	79·46				
„ 12 ft. 0 in. „ 47 ft. „	0·892	—	41·92				
„ 8 ft. 0 in. „ 115 ft. „	0·621	—	71·41				
			192·79	—	20 00	—	3,855 80
Ashlar Caps and String							
In one 16 ft. 0 in. culvert —	59 50	—	59·50				
„ 12 ft. 0 in. „ —	56·75	—	56·75				
„ 8 ft. 0 in. „ —	20·66	—	20·66				
In two 6 ft. 0 in. „ —	13·66	—	27·32				
			164·23	—	1 50	—	246 34
Timber.							
In two 6 ft. 0 in. open culverts —	18·00	—	36·00	—	2 00	—	72 00
Excavations for Foundations.							
In arched culverts —	—	—	103·69	—	1 00	—	103 69
In open culverts —	—	—	117·40	—	1 00	—	117 40
					Total...Rs		19,595 18

A 5.

KUDA-OYA TO TALAWAKELE.—*Retaining Walls.*

From		To		Length.	Average Height		Contents Dry Walling.	Contents in Mortar.	REMARKS
m.	chs	m.	chs.	yards.	in.	ft.	c. yards.	c. yards.	
0	29	—		—	—		—	30·00	At end of culvert.
3	65·75	3	66·25	11	5	0	28·27	—	Surcharged wall.
	74·25		76·25	44	20	0	469 04	165 88	do.
4	11 50	4	13·50	44	10	0	207·68	—	—
	20·25		21·75	33	8	0	117·15	—	—
	60 50		63·00	55	13	0	446 60	—	Surcharged wall
	63·00		65 75	60·50	6	0	191·54	—	do.
	68·75		69 75	22	5	0	44·31	—	—
	73·50		74·75	27·50	13	0	183 70	—	—
5	75·50	5	1·00	121	10	0	571·12	—	—
	7 50		10·00	55	13	0	367·40	—	—
	20·25		25·25	110	5	0	282 70	—	—
	52·75		54·25	33	16	0	293 04	—	—
	66 00	—		—	—		—	50·00	At mouth of culvert.
	73·00		77·50	99	20	0	879·12	329 67	—
6	1·75	6	3·75	44	20	0	390·72	146·52	—
	7·00		10·00	66	12	0	483 78	—	Surcharged wall.
	10·00		15·75	126·50	12	0	759·00	—	—
7	11 50	7	12·00	11	5	0	22 15	—	—
	17·00		20·50	33	5	0	66 45	—	—
	23·50		26·00	55	15	0	544·50	—	Surcharged wall.
	61·25		62·25	22	5	0	44·31	—	—
	62·25		64·75	55	20	0	488·40	183·15	—
	64·75		65 75	22	5	0	44 31	—	—
		Total Cubic Yards...					6925·29	905·22	

Estimate.

		Rs.	Cts.
6925·29 cubic yards of dry rubble at 4 rupees	=	27,701	16
905·22 „ masonry in mortar at 8 rupees	=	7,241	76
Total...Rs		34,942	9

A. 6.

ESTIMATE for Bridge at 0 miles 61·50 chains on the straight. One 60 feet and two 30 feet girder spans, Road on top. Drawing No. 1.—Masonry piers.

Description.	Each.				Totals				Rate		Amount	
									Rs.	Cts	Rs.	Cts.
Masonry.												
In piers (double faced-work)	354·59 c. yards				...				20	0	7091	80
In abutments and wings (single-faced work) ...	301· 4 c. yards								15	0	4520	10
Excavation for foundations	240·49 c. yards				...				1	0	240	49
Ashlar.												
In caps, strings, and copings	358 c. feet.				...				1	50	1287	0
Wrought Iron.	tons	cwts.	qrs.	lbs.	tons	cwts.	qrs	lbs.				
In 2 main girders, 65 ft. long	7	10	0	0	15	0	0	0	300	0	4500	0
,, 4 do. 35 ft. long	2	0	0	0	8	0	0	0	....		2400	0
,, 52 cantilevers for footpath	0	0	8	2	1	19	3	20	..		598	93
,, 52 hand-rail standards	0	0	0	14¾	0	6	3	11	...		102	72
,, 2 roller-frames	0	0	1	3	0	0	2	6	...		8	30
,, 48 holding down plates, 10 in. by 10 in. by ½ in.	0	0	0	13¾	0	5	3	16	...		85	39
,, 6 sets for bracing for 60 ft. spans ...	0	1	3	16	0	9	1	24	...		141	96
,, 6 do. do. 30 ft. spans ...	0	1	1	20	0	8	2	8	..		128	57
,, 16 holding down bolts, 3 ft. 6 in. by 1½ in .	0	0	0	25	0	3	2	8	400	0	71	43
,, 32 do. do. 3 ft. by 1 in. ..	0	0	0	9¼	0	2	2	16	...		52	86
,, 274 lineal feet of angle iron at ends of cantilevers (3 in. by 3 in. by ⅜ in.) ...			...		0	17	0	22	300	0	257	95
,, 416 bolts securing planking 3 in. by ½ in. ...	0	0	0	0½	0	1	0	26	400	0	24	64
,, 208 bolts securing hand-rail standards ..	0	0	0	0½	0	0	3	20	...		18	57
,, 822 lineal feet of tubing for hand-rail at per feet run	0	0	0	1·15	0	8	1	21	...		168	75
Steel.												
In 2 sets of 5—3 in. rollers	0	1	3	10	0	3	2	20	450	0	82	76
Cast Iron.												
In 4 bed plates for 80 ft. span ...	0	4	2	2	0	18	0	8	200	0	180	71
,, 8 do. 30 ft. span	0	1	3	4	0	14	1	4	...		142	86
Timber.												
In 3 in. planking 205·50 c. feet at per c. foot ...		...				..			2	0	411	0
In rail timbers 186 47 c. feet at per c. foot ...		...				...			2	0	372	94
								Total ... Rs.			22892	73

A. 7.

ESTIMATE for Kotagal-oya Bridge at 5 miles 41·70 chains. One 80 feet span. Road between girders. Drawing No. 2.

Description.	Each.				Totals.				Rate.		Amount.	
									Rs.	Cts.	Rs.	Cts.
Masonry.												
In abutments and wings	531·40 c. yards.				...				15	0	7971	0
Ashlar.												
In caps, strings, and copings	598·50 c. feet								1	50	897	75
Excavation for foundations	100 c. yards				..				1	0	100	0
Wrought Iron.	tons	cwts.	qrs.	lbs.	tons	cwts.	qrs.	lbs.				
In 2 main girders, 85 ft. 0 in. long ...	12	5	3	0	24	11	2	0	300	0	7372	50
,, 11 cross girders	0	10	1	25	5	15	0	25	...		1728	8
,, 2 end cross girders	0	9	1	23	0	18	3	18	...		283	66
,, 20 rail bearers	0	2	3	25	2	19	1	24	...		891	96
,, 4 end rail bearers	0	3	3	0	0	15	0	0	...		225	0
,, 340 lin. feet of angle iron for pathway ...		...			1	1	1	10	...		320	9
,, 170 bolts and nuts attaching longitudinal timbers to girders		...			0	1	0	7	400	0	21	25
,, 16 holding down bolts, 3 ft. 6 in. by 1½ in. ...	0	0	0	25	0	3	2	8	...		71	43
,, 16 holding down plates, 10 in. by 10 in. by ½ in.	0	0	0	14	0	2	0	0	300	0	30	0
,, 2 roller-frames	0	0	1	3	0	0	2	6	...		8	30
Steel.												
In two sets of 5—3 in. rollers ...	0	1	3	10	0	3	2	20	450	0	82	77
Cast Iron.												
In 4 bed plates planned for rollers ...	0	4	2	2	0	18	0	8	250	0	225	89
Timber.												
In longitudinal timbers and transoms ...	122·50 c. feet				...				2	0	245	0
In planking 2½ thick	118·60 ,,				..				2	0	237	20
								Total ... Rs.			20711	88

RAILWAY EXTENSION.

Sessional Papers.

A. 8.

ESTIMATE for Bridge at 6 miles 59 chains on curve 8·22 chains radius.—One 80-feet span.—Road on top.—Drawing No. 2.

Description.	Each.				Totals.				Rate.		Amount.	
									Rs.	Cts.	Rs.	Cts.
Excavation for foundations ...	132 cubic yards								1	0	132	0
Masonry.												
In abutments and strings (single faced work)	266 cubic yards				...				15	0	3990	0
Ashlar.												
In caps strings, and copings ...	452 cubic feet				...				1	50	678	0
Wrought Iron.	tons.	cwts.	qrs.	lbs.	tons	cwts.	qrs.	lbs.				
In 2 main girders 85 feet long...	12	5	3	0	24	11	2	0	300	0	7372	50
" 17 cross girders with cantilevers	0	8	0	18	6	18	2	26	...		2080	98
" 34 hand rail standards ...	0	0	0	14¾	0	4	1	25	...		67	9
" 2 roller frames ...	0	0	1	3	0	0	2	6	...		8	30
" 16 holding down plates, 10 in. by 10 in. by ½ inch ...	0	0	0	13¾	0	1	3	24	...		29	46
" 6 sets cross bracing between girders ...	0	2	3	8	0	16	3	20	...		258	93
" 16 holding down bolts 3 ft. 6 in. by 1½ in.	0	0	0	25	0	3	2	8	400	0	71	43
" 476 bolts for securing planking, 3 in. by ½ in.	0	0	0	0½	0	1	1	19	...		28	39
" 136 bolts for hand rail standards ...	0	0	0	0½	0	0	2	12	...		12	14
" 480 lineal feet tubing for hand rail ...	0	0	0	1·15	0	4	3	20	...		92	57
Steel.												
In 2 sets of 5—3 in. rollers ...	0	1	3	10	0	3	2	20	...		82	76
Cast Iron.												
In 4 bed plates ...	0	4	2	2	0	18	0	8	200	0	180	71
Timber.												
In 225 cubic feet of 3 in. planking	...				..				2	0	451	20
In 115·49 cubic feet of longitudinal rail timbers 14 in. by 7 in ...	...				...				2	0	231	18
									Total...Rs.		15788	64

A. 9.

ESTIMATE for Kotmale Ganga at 8 miles 58 chains on curve 6·37 chains radius.—Two 80-feet girder spans in middle, and two 60-feet girder spans—1 at each end.—Masonry piers. Road on top.—Drawing No. 4.

Description.	Each.				Totals.				Rate.		Amount.	
Excavation.									Rs.	Cts.	Rs	Cts.
In abutments ...	199 cubic yards				..				1	0	199	0
In piers ...	260 "				...				...		260	0
Additional for two foundations in water	...				...				..		2000	0
Masonry.												
In abutments and wings (single faced work) ...	672 cubic yards				...				15	0	10080	0
In piers (double faced work) ...	1046 "				...				20	0	20920	0
Ashlar.												
In caps, strings, and copings ...	977 cubic feet				...				1	50	1465	0
Wrought Iron.	tons	cwts.	qrs.	lbs.	tons	cwts.	qrs.	lbs.				
In 2 main girders, 86 ft. 0 in. long ...	12	8	3	0	24	17	2	0	300	0	7462	50
" 2 " " 84 ft. 6 in. " ...	12	4	1	0	24	8	2	0	...		7317	50
" 2 " " 65 ft. 0 in. " ...	7	12	1	0	15	4	2	0	...		4557	50
" 2 " " 64 ft. 6 in. " ...	7	9	2	14	14	19	1	0	...		4488	75
" 60 cross girders with cantilevers ...	0	8	0	18	24	9	2	16	...		7344	64
" 120 hand rail standards ...	0	0	0	14¾	0	15	3	6	...		237	5
" 8 roller frames ...	0	0	1	3	0	2	0	24			93	21
" 64 holding down plates 10 in. by 10 in. by ½ in.	0	0	0	13¾	0	7	3	12	...		117	85
" 12 sets cross bracing between girders ...	0	2	3	8	1	13	3	12	...		507	85
" 8 sets " " " " ...	0	2	1	0	0	18	0	0	...		270	0
" 64 holding down bolts, 3 ft. 6 in. by 1½ in.	0	0	0	25	0	14	1	4	400	0	285	71
" 1666 bolts for securing planking, 3 in. by ½ in.	0	0	0	0½	0	4	3	23	...		99	10
" 1680 lineal feet tubing for hand rail ...	0	0	0	1·15	0	17	1	0	...		345	0
" 476 bolts for hand rail and standards ...	0	0	0	0½	0	2	0	14	...		42	50
Steel												
In 8 sets of 5—3 in. rollers ...	0	1	3	10	0	14	2	24	450	0	331	7
Cast Iron.												
In 16 bed plates ...	0	4	2	2	3	12	1	4	200	0	722	85
Timber.												
In 539·60 cubic feet of 3 in. planking ...	...				...				2	0	1539	20
In 404·60 cubic feet of longitudinal rail timbers 14 in. by 7 in. ...	...				...				2	0	809	20
									Total ... Rs		71495	98

A 10.

KUDA-OYA TO TALAWAKELE.—*Permanent Way Estimate.—(Steel Rails.)*

	Description.	Weight.	Total Weight Tons.	Rate. Rs.	Amount R.	Cts.
3,520 yards	Steel rails	72 lbs. per yd.	113·14	150 per ton	16,971	0
1,008 No.	Fish plates	9·13 lbs. each	4·11	120 „	493	20
2,016 No.	Fish bolts	1·45 „	1·30	260 „	338	0
4,032 No.	Fang bolts	3·72 „	6·69	260 „	1,739	40
4,032 No.	Spikes	1·00 „	1·80	210 „	378	0
294 yards	Guard rails	40 lbs. per yd.	5·25	100 „	525	0
336 No.	Cast iron blocks	5·38 lbs. each	0·80	120 „	96	0
336 No.	Bolts and nuts	1·88 „	0·28	300 „	84	0
336 No.	Spikes	1·00 „	0·15	210 „	31	50
2,016 No.	Sleepers	—	118·00	3·65 each	7,358	40
	Transport	—	251·52	15 per ton	3,772	80
	Plate-laying	—			1,000	0
4,400 cubic yards ballasting (at 2·50 cubic yards per yard forward)					5,500	0
					38,257	80
	Add 10 per cent. for sidings				3,828	73
	Estimate for one mile of Permanent Way				42,116	3

NOTE—The foregoing estimate is calculated on the assumption that guard rails will only be necessary on curves under 6·37 chains radius, such curves aggregate in length about one sixth of the district.

A 11.

KUDA-OYA TO TALAWAKELE.—*Estimate for Miscellaneous Items.*

	Amount Rs.	Cts.
Level Crossings.		
Dimbula and Dikoya road at 0 miles 15·60 chains.—Gates and lodge	1,500	0
do. do. Earthwork in raising and diverting road	1,500	0
Nawalapitiya and Dimbula road at 5 miles 60 chains	1,500	0
Branch roads to Works where required, say 2 miles at Rs. 5,000	10,000	0
Total...Rs.	14,500	0

B.

Estimate of the Cost of One Mile of Permanent Way (Iron Rails.)

Description.	Weight. Tons.	Rate. Rs.	Amount. Rs.	Cts.
Iron rails	114	100 per ton	11,400	0
Fish plates	4·11	120 „	493	20
Bolts	1·35	260 „	351	0
Fang bolts	6·67	260 „	1,734	20
Spikes	1·80	210 „	378	0
Yards guard rails, 60 lbs. per yard	23·57	100 „	2,357	0
Cast iron blocks at 4 lbs. each	1·80	120 „	216	0
Bolts and nuts at 1·5 lb. each	0·68	300 „	204	0
Spikes at 1 lb. each	0·45	210 „	94	50
Sleepers	168·00	4 each	8,061	0
Transport	322·43	10 per ton	3,224	30
Cubic yards ballasting	...	1·25 per c. yd.	5,500	0
Plate-laying	...	...	1,300	0
			35,316	20
Add 10 per cent. for sidings			3,531	80
Cost of one mile of 1st section		Rs.	38,848	0

KI'DA-OYA TO TALAWAKELE.—List of Straights and Curves.

Distance from		Distance to		Radius of Curve.	Direction of Curve.	Length of Curve.	Length of Straight.
Miles.	Chains.	Miles.	Chs				
0	0	0	1·83				1·83
0	1·83		5 62	5·22	R	3·79	
	5·62		14·75				9 13
	14·75		19·18	6 37	R	4·43	
	19 18		21 00				1·82
	21·00		25 07	8 19	L	4·07	
	25 07		28 01				2·94
	28·01		30 53	8·19	R	1·93	
	30·53		38 70				8 17
	38 70		44·95	5 74	L	6·25	
	44·95		48·00				3·05
	48 00		54 50	5·74	R	6 50	
	54·50		67·32				12 82
	67·32		70·60	8·19	L	3·28	
	70·60	2	36 10				12 32
	36 10		44 48	6 37	R	8·38	
	44 48		48·18				3 70
	48·18		56·16	6·37	L	7 98	
	56 16	3	5·00				28 84
	5·00		13·65	6 37	R	8·65	
	13·65		21 36				7·71
	21·36		29 03	6·37	L	7·67	
	29 03		38 44				9 41
	38 44	3	43 01	6 37	R	4·57	
	43·01		61·83				18·82
	61·83		66·40	5·74	R	4·57	
	66 40		66·95				1·19
	66·95		72 03	6.37	R	5·08	
	72·03		74·00				1·97
	74·00	4	4 04	4 98	L	10 04	
	4·04		7·06				3·02
	7·06		10 33	8·19	L	3·27	
	10 33		20 75				10 42
	20 75		23 48	8·19	R	2 72	
	23 48		25·23				1·75
	25·23		30 13	4·98	L	4·90	
	30 13		31·97				1·84
	31·97		37 01	6·37	R	5 04	
	37·01		37·64				0·63
	37 64		44·74	5·46	R	7·10	
	44·74		46 87				2·13
	46 87		59·31	6·37	L	12·43	
	59·31		63·41				4·10
	63 41		68·03	8 19	R	4 62	
	68·03		70 10				2·07
	70 10	4	78·73	12 74	L	8·63	
	78 73		79·45				0·72
	79 45	5	5·68	6 37	R	6·23	
	5·68		16·19				10·51
	16·19		20·69	6·37	L	4·50	
	20·69		24 76				4 07
	24·76		27·45	7·17	L	2·69	
	27·45		34 85				7 40
	34·85		42·07	7·17	R	7·22	
	42 07		53 71				11·64
	53·71		58 43	6 87	R	4 72	

Distance from		Distance to		Radius of Curve.	Direction of Curve.	Length of Curve.	Length of Straight.
Miles.	Chains.	Miles.	Chs.				
	58·43		61·60				3 17
	61·60		66·79	4·98	L	5·19	
	66 79		68·25				1·46
	68·25		72·53	5·74	R	4·28	
	72·53		74 06				1·53
	74·06		76 71	5·74	L	2·65	
	76·71		78·05				1·34
	78·05	6	2·06	4 98	R	4·01	
6	2·06		3·64				1·58
	3·64		10 24	6 37	L	6·60	
	10 24		14·56				4 32
	14·56		22·87	6 37	R	8 31	
	22 87		25 42				2 55
6	25·42	6	30·35	6 37	R	4·93	
	30·35		40 22				9·87
	40·22		43·75	8 19	R	3·53	
	43·75		46·28				2·53
	46·28		51·54	5 74	L	5·26	
	51 54		53 81				2·27
	53·81		55·57	5 22	R	1 76	
	55·57		57·75				2·18
	57·75		63·42	5·22	L	5·67	
	63 42		70·00				6·58
	70·00		74·00	28 64	R	4·00	
	74·00		79 50				5 50
	79·50	7	7·00	6·37	L	7·50	
7	7·00		10·00				3·00
	10 00		19·75	6·75	R	9·75	
	19·75		22·00				2·25
Comp. Curve	22·00		30·00	19 10	L	8·00	
	30 00		33·00	7·17	L	3 00	
	33 00		34·00				1·00
	34 00		40·50	5 74	R	6·50	
	40·50		45·75				5·25
	45·75		51 25	5·74	L	5 50	
	51·25		53·00				1·75
Comp. Curve	53 00		60 00	5·74	R	7·00	
	60 00	¶	62 49	7·64	R	2·49	
7	64·65	7	76·54				11 89
	76·54	8	0·25	4·98	L	3·71	
8	0·25		1·70				1·45
	1·70		4·25	7·17	R	2 55	
	4·25		6 51				2·26
	6·51		16 00	11·46	L	9·49	
	16·00		24·73				8 73
	24·73		33 40	6·37	R	8·67	
	33·40		35·81				2·41
	35·81		41·50	6 37	L	5 69	
	41·50		52 54				11·04
Comp. Curve	52 54		60·00	6 87	L	7·46	
	60·00		66 80	5 74	L	6·80	
	66·80		68 22				1·42
**	68·22		71·00	5 74	L	3·12	
					Total Chains ...	314·68	281·85

* From 28 chains to 29 chains is 0 41 chains.
† From 0 miles 79 chains to 2 miles 33 chains is 0·82 chains.
‡ From 66 to 67 chains is 1 64 chains.
§ From 5 miles 76 chains to 5 miles 77 chains is 1·50 chains
‖ At this point deviation begins
¶ 7 miles 62 49 chains the end of the deviation is identical with 7 miles 64 65 chains on Mr. Mayes' original line.

or 7 miles 36·53 chains

Of this distance—3 miles 74·68 chains, or 52·75 per cent. is on curves, and 3 miles 41·85 chains or 47·25 per cent is on the straight.

** From 8 miles 67 chains to 8 miles 69 chains is 1·94 chains.

Abstract of Curves.

5	curves of	4·98 chains radius	in length	27·85
3	"	5·22	"	11·22
1	"	5·46	"	7 10
11	"	5·74	"	58 43
20	"	6·37	"	128·84
1	"	6·75	"	9·75
4	"	7·17	"	15·46
1	"	7 64	"	2·49
7	"	8·19	"	23·42
1	"	11·46	"	9 49
1	"	12·74	"	8·63
1	"	19·10	"	8·00
1	"	28·64	"	4 00

D.

KUDÁ-OYA TO TALAWAKELE.—*List of Gradients.*

From	Height above datum.	To	Height above datum.	Length, Chains.	Gradient.	REMARKS.
m. chs.		m. chs.				
0 0	4359·00	0 57	4174·38	56 41	1 in 44	Falling.—From 0 miles 28 chains to 29 chains is 0·41 chains.
57	4174·38	70	4170 05	13·00	1 in 198	Falling.
70	4170·05	2 41·96	4147·50	18·78	1 in 55	Falling.—From 0 miles 79 chains to 2 miles 33 chains is 0·82 chs.
2 41·96	4147·50	54	4147 50	12·04	Level	
54	4147·50	3 2	4125·10	28·00	1 in 82·50	Falling.
3 2	4125·10	40	4129·85	38·00	1 in 528	Rising
40	4129·85	60 79	4129·85	20 79	Level	
60·79	4129·85	4 0	4110·00	19 85	1 in 66	Falling.—From 66 to 67 chains is 1·64 chains.
4 0	4110·00	10	4107·50	10 00	1 in 264	Falling.
10	4107·50	66	4051·50	56·00	1 in 66	Falling.
*66	4051·50	5 6	4049·00	20·00	1 in 528	Falling.
5 6	4049·00	15	4057·00	10 00	1 in 82·50	Rising
16	4057·00	20	4057 00	4·00	Level	
20	4057 00	70	4037·00	50·00	1 in 165	Falling.
70	4037·00	73	4037·00	3·00	Level	
73	4037·00	6 4·50	4043 00	12 00	1 in 132	Rising.—From 5 miles 76 chains to 5 miles 77 chs is 1·50 chs.
6 4 50	4043·00	17·00	4043·00	12·50	Level	
17	4043·00	46	4014·00	29 00	1 in 66	Falling.
46	4014·00	67	4000 00	21·00	1 in 99	Falling.
67	4000·00	72	4000 00	5 00	Level	
72	4000·00	7 79	4018·65	84 82	1 in 300	Rising.—From 6 miles 62 chains to 6 miles 65 chains is 0·84 chs.
7 79	4018 65	8 14	4023 65	15·00	1 in 198	Rising.
8 14	4023·65	17·35	4023·65	3·35	Level	
17·35	4023·65	41 00	4000 00	23·65	1 in 66	Falling.
41·00	4000·00	59·92	4000·00	18·92	Level	
59·92	4000·00	72 00	4017 00	11·42	1 in 44	Rising. - From 8 miles 67 chains to 8 miles 69 chains is 1·34 chs.
Total Length of District...Chains				596·53	= 7 miles 36 53 chains.	

E.

Table of Quantities and Distribution of Earthwork.

From	To	Contents of Bank.	Contents of cutting.	Volume to Bank.	Volume to spoil.	Bank from side cutting.	Rock.	Earth.
0 miles. 0 chains	m. c	c. yds.	c yds.	c yds	c. yds.	c. yds.	c. yds.	c. yds.
Cut No. 1	0 7½	—	10502	3254	9873	—	5251	5251
Bank „ 1	7¾	56	—	—	—	—		—
Cut „ 2	8¾	—	109	109	—	—	—	109
Bank „ 2	11¼	2366		—	—	—	—	—
Cut „ 3	15¼	—	1760	1980	—	—	440	1320
Bank „ 3	19¼	2921	—	—	—	—	—	—
Cut „ 4	25¼	—	4704	5488	—	—	1568	3136
Bank „ 4	30¾	9303		—	—	—	—	—
Cut „ 5	35¼	—	11613	11751	2765	—	5806	5807
Bank „ 5	39¾	7936	—	—	—	—	—	—
Cut „ 6	44¾	—	7770	9712	—	—	3885	3885
Bank „ 6	45¼	91	—	—	—	—	—	—
Cut „ 7	46¾	—	95	95	—	—	—	95
Bank „ 7	55¾	16734	—	—	—	—	—	—
Cut „ 8	60	—	9131	7359	4054	—	4565	4566
Bank „ 8	60 2/5	341	—	—	—	—	—	—
Bank „ 8 A	62¾	363	—	—	—	—	—	—
Cut „ 9	67	—	9177	11471	—	—	4588	4589
Bank „ 9	74¼	12646	—	—	—	—	—	—
Cut „ 10	79¼	—	10914	11514	1207	—	3635	7269
Bank „ 10	2 42¼	9047	—	—	—	—	—	—
Cut „ 11	44¼	—	203	203	—	—	—	203
Bank „ 11	49¼	1196	—	—	—	—	—	—
Cut „ 12	56¼	—	1388	1388	—	—	—	1388
Bank „ 12	61¼	1324	—	—	—	—	—	—
Cut „ 13	62	—	37	37	—	—	—	37
Bank „ 13	64¼	682	—	—	—	—	—	—
Cut „ 14	71¾	—	5906	6439	521	—	1988	3978
Bank „ 14	3 9	5794	—	—	—	—	—	—
Cut „ 15	12	—	539	605	—	—	134	404
Bank „ 15	16¾	1561	—	—	—	—	—	—

B.—*continued.*

From	To	Contents of Bank.	Contents of cutting	Volume to Bank.	Volume to spoil.	Bank from side cutting.	Rock.	Earth.
	m. c.	c. yds.	c. yds.	c. yds.	c yds.	c. yds.	c. yds.	c. yds.
Cut No. 16	3 20	—	676	676	—	—	—	676
Bank „ 16	20¾	73	—	—	—	—	—	—
Cut „ 17	26¾	—	2523	353	2170	—	—	2523
Bank „ 17	31¾	662	—	—	—	—	—	—
Cut „ 18	36¾	—	956	956	—	—	—	956
Bank „ 18	38¼	384	—	—	—	—	—	—
Cut „ 19 ...	40¾	—	965	1206	—	—	482	483
Bank „ 19 . .	51	3113	—	—	—	—	—	—
Cut „ 20	58½	—	4755	4348	1199 to station ground	—	1585	3170
Bank „ 20	66½	2351	—	—	—	—	—	—
Cut „ 21	69½	—	8267	10050	283	—	4133	4134
Bank „ 21	71¾	3754	—	—	—	—	—	—
Cut „ 22	73¼	—	521	521	—	—	—	521
Bank „ 22	76¾	6817	—	—	—	—	—	—
Cut „ 23	79	—	2154	2199	224	—	539	1615
Bank „ 23	4 4¾	2199	—	—	—	—	—	—
Cut „ 24	8¾	—	1035	136	899	—	—	1035
Bank „ 24	10½	136	—	—	—	—	—	—
Cut „ 25	11½	—	186	186	—	—	—	186
Bank „ 25	15½	1269	—	—	—	—	—	—
Cut „ 26	29½	—	16506	12324	6933	—	5502	11004
Bank „ 26	33½	11241	—	—	—	—	—	—
Cut „ 27 ..	36¾	—	6885	4795	3811	—	3442	3443
Bank „ 27	39¾	4795	—	—	—	—	—	—
Cut „ 28	41¾	—	598	598	—	—	—	598
Bank „ 28	48¾	5098	—	—	—	—	—	—
Cut „ 29	56½	—	10042	9905	2897	—	5121	5121
Bank „ 29	65¾	5405	—	—	—	—	—	—
Cut „ 30	68¾	—	370	370	—	—	—	370
Bank „ 30	69¾	21		—	—	—	—	—
Cut „ 31	72½	—	718	718	—	—	—	718
Bank „ 31	5 5½	3018	—	—	—	1072	—	—
Cut „ 32	7¼	—	259	259	—	—	—	259
Bank „ 32	10¾	1347	—	—	—	—	—	—
Cut „ 33	12	—	87	87	—	—	—	87
Bank „ 33	14¾	1448	—	—	—	—	—	—
Cut „ 34	20½		3682	4295	—	—	1227	2455
Bank „ 34	25½	972	—	—	—	—	—	—
Cut „ 35	28½		1539	1398	333	—	385	1154
Bank „ 35	29	57	—	—	—	—	—	—
Cut „ 36	32½	—	2127	2393	—	—	532	1595
Bank „ 36	36½	6594		—	—	—	—	—
Cut „ 37	39¾	—	2452	2860	—	—	817	1635
Bank „ 37	41½	1783	—	—	—	—	—	—
Bank „ 37A	43½	1482	—	—	—	—	—	—
Cut „ 38	50½	—	13024	8431	8934	—	8682	4342
Bank „ 38	54¾	5166	—	—	—	—	—	—
Cut „ 39	60	—	2202	2569	—	—	734	1468
Bank „ 39 — ..	62	3660	—	—	—	—	—	—
Cut „ 40	64	—	2032	1091	1195	—	508	1524
Bank „ 40 .. .	67¾	15932	—	—	—	—	—	—
Cut „ 41	73½	—	14269	15932	1904	—	7134	7135
Bank „ 41	76¾	682	—	—	—	—	—	—
Cut „ 42	6 1¾		5356	682	6013	—	2678	2678
Bank „ 42	2½	67	—	—	—	—	—	—
Cut „ 43	2¾	—	68	67	35	—	68	—
Bank „ 43	3½	37	—	—	—	—	—	—
Cut „ 44	7	—	5196	2613	5181	—	5196	—
Bank „ 44	10	3598	—	—	—	—	—	—
Cut „ 45	14½	—	876	1022	—	—	292	584
Bank „ 45	15½	64	—	—	—	—	—	—
Cut „ 46	19	—	8086	64	11054	—	6064	2022
Tunnel (1673 to bank)								
Cut No. 46 A.	29½	—	4013	6019	—	—	4013	—
Bank „ 46	34½	7729	—	—	—	—	—	—
Cut „ 47	36	—	175	262	—	—	175	—
Bank „ 47	40	225	—	—	—	—	—	—
Cut „ 48	47	—	6175	6372	1346	—	3087	3088
Bank „ 48	53½	6372	—	—	—	—	—	—
Cut „ 49	57¾	—	8913	112	11029	—	4456	4457
Bank „ 49	58	112	—	—	—	—	—	—

M.—*continued.*

From	To	Contents of Bank.	Contents of cutting.	Volume to Bank.	Volume to spoil.	Bank from side cutting.	Rock.	Earth.
	m. c.	cub. yds.	cub. yds.	cub. yds.	cub. yds.			
0 miles. 0 chains								
Bank No. 49 A.	6 60	211	—	—	—	—	—	—
Cut „ 50	69½	—	16225	211	18718	—	5408	10817
Bank „ 50	71	321	—	—	—	—	—	—
Cut „ 51 .	73½	—	800	621	312	—	266	534
Bank „ 51	75½	903	—	—	—	—	—	—
Cut „ 52	78½	—	517	603	—	—	172	345
Bank „ 52	7 0½	1015	—	—	—	—	—	—
Cut „ 53	4½	—	4632	5404	—	—	1544	3088
Bank „ 53	8½	5912	—	—	—	—	—	—
Cut „ 54	11½	—	1028	1199	—	—	343	685
Bank „ 54	12	50	—	—	—		—	—
Cut „ 55	17	—	4137	4826	—		1379	2758
Bank „ 55	20½	530	—	—	—	—	—	—
Cut „ 56 ..	23½	—	1277	1490	—		426	851
Bank „ 56	26	1706	—	—	—	—	—	—
Cut „ 57	29	—	3727	4348	—	—	1242	2485
Bank „ 57 ...	34½	11139	—	—	—	—	—	—
Cut „ 58	37	—	2532	2954	—	—	844	1688
Bank „ 58	41½	8856	—	—	—	1765	—	—
Cut „ 59	44	—	2063	2063	—	—	—	2063
Bank „ 59	47½	8971	—	—	—	4375	—	—
Cut „ 60	48½	—	97	97	—	—	—	97
Bank „ 60	50	840	—	—	—	—	—	—
Cut „ 61	54	—	5892	5892	—	—	—	5892
Bank „ 61	56½	3674	—	—	—	—	—	—
Cut „ 62	61½	—	7089	8270	—	—	2363	4726
Bank „ 62	68	2555	—	—	—	—	—	—
Cut „ 63	69½	—	247	288	—	—	82	165
Bank „ 63	71½	3147	—	—	—	—	—	—
Cut „ 64	78	—	5051	5414	479	—	1684	3367
Cut „ 64	8 3½	—	11062	13827	—	—	5531	5531
Bank „ 64 .. .	10½	16809	—	—	—	—		—
Cut „ 65	11½	—	102	102	—	—	—	102
Bank „ 65	12½	177	—	—	—	—	—	—
Cut „ 66	17½	—	9386	3057	8675	—	4693	4693
Cut „ 66 A	37	—	21678	23840	8257 to station ground	—	10839	10839
Bank „ 66	44½	23840	—	—	—	—	—	—
Cut „ 67	50½	—	7592	3164	5693 to station ground	—	2531	5061
Bank „ 67	52½	3164	—	—	—	—	—	—
Cut „ 68 . ..	55½	—	4111	283	4855 to station ground	—	2055	2056
Bank „ 68	55½	283	—	—	—	—	—	—
Bank „ 68 A	61½	136	—	—	—	—	—	—
Cut „ 69	71½	—	11779	243	16689	—	10307	1472
Bank „ 69	72	107	—	—	—	—	—	—
Totals .. Cubic yards ..	—	273365	332809	265470	127534	7212	150421	182888

NOTE.—In the foregoing table rock spoil has been calculated with an increase of 50 per cent. in bulk; thus, 20,000 cubic yards of rock cutting carried to spoil has been entered as 30,000 cubic yards of spoil.

VI.

REPORTS AND ESTIMATES

FOR

A SINGLE LINE OF RAILWAY

FROM

NANU-OYA TO HAPUTALE.

(In continuation of Sessional Paper No. V. of 1878.)

Ordered by His Excellency the Governor to be Printed.

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1878.

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REPORTS AND ESTIMATES

FOR

A SINGLE LINE OF RAILWAY

FROM

NANU-OYA TO HAPUTALE.

No. 1.

The CHIEF ENGINEER, Railway Extension, to the Hon'ble the COLONIAL SECRETARY.

RAILWAY EXTENSION.

FURTHER PAPERS.

Report on Surveys—Nanu Oya to Haputale.

No. 128. Nawalapitiya, 11th July, 1878.

SIR,—I HAVE the honor to forward for transmission to the Consulting Engineer the plans, reports, and estimates of the line from Nánu-oya to Haputalé, of which a list is hereto annexed.

2. The reports being so detailed, I shall describe them very briefly, and deal chiefly with their results.

NANU-OYA TO AMBAWELLA.

First Section.—Length, 6 miles 46½ chains. (*Mr. Mayes, Senior Assistant Engineer.*)

3. On leaving the valley of the Nánu-oya, the line passes through Upper Abbotsford Estate and continues nearly the whole distance through forest on the side of the Great Western range to the foot of Catapilla-Manu mountain, when after running near to the Rajapatanas it reaches the first Elk Plain patanas at the top of the Railway Gorge.

4. On examining the country between Catapilla-Manu, Hakgalla, and the Ambawella valley, I became convinced of the impracticability, on account of its cost, of taking the railway on the north side of Hakgalla, as referred to in paragraph 40 of Mr. Macnair's report, dated 28th August, 1875, and I entirely concur in the views expressed in Mr. Ferrar's report, that, on account of the precipitous nature of the numerous spurs and deep ravines running out of the main ridge from Totapella to Haputalé, any line north of Hakgalla or down Ambawella valley would be "prohibitory on account of expense." It was in fact found imperative to keep the line as long as possible on or near to the top of the ridge, until it became necessary to descend from the summit to Haputalé, because the undulations of the country and the water-shed are very much less higher up than they are lower down.

See Sessional Paper VII of 1875.

See Report dated 22nd October, 1875.

Sessional Paper XXV, 1876.

5. It was therefore evident that Mr. Stoddart's trace, from which the permanent line had diverged at Forest Creek in Dimbula, ought to be regained on the Elk Plains; his trace having gone through the Agras and ours along the Great Western route.

6. The country between the Rajapatanas camp and Mr. Stoddart's line being then altogether unexplored, Mr. Mayes on the 14th September last accompanied me over part of it, and on 26th October, 1877, I pointed out to him the spot on the Dambagastalawa-oya where our line should regain Mr. Stoddart's trace, viz., about 31¾ miles on his plan.

7. More favourable ground than could have been expected has been found between these points, and the portion, about one mile, near the top of the Railway Gorge is comparatively easy. The country from Nánu-oya to this point, chiefly forest, is much of the same character as that in the other portions on the Great Western route, through which the line goes, the rock being estimated at 42 per cent. of the total excavation.

8. The particulars of this district are as follows:—

Gradients.—2 chains level; 10½ chains rising 1 in 198; 6 miles 34 chains rising 1 in 52·80. Total length, 6 miles 46½ chains rising 646 feet.

9. *Curves.*—Of these, fifty have chiefly a radius of 6·37 chains. There are six curves having a less radius than 6·36 chains, but no curve of less than 5·46 chains' radius. The totals are:

	Miles.	Chains.		Miles.	Chains.
Curves ...	3	75·52	Straight ..	2	50·96
Percentage Curves ...		66·80	Percentage Straight		33·20

RAILWAY EXTENSION.

FURTHER PAPERS.

10. *Tunnels.*—There are only two tunnels, the total length of which is 105 lineal yards. Being believed to be through solid rock, where no lining will be required, they have been estimated at 350 rupees per lineal yard.

11. Summarised, Mr. Mayes' estimate becomes :—

	Rs	Rs.
Ways and works, with steel rails throughout	1,243,513	
Telegraph	4,444	
		1,247,957
Per mile, 189,601 rupees.		
Land and compensation	28,875	
Supervision	65,162	
Rolling stock	145,614	
		239,651
Per mile, 36,410 ,,	Total Rs.—	1,487,608
Total per mile, 226,011 ,,		

NANU-OYA TO AMBAWELLA.

Second Section.—(Mr. F. J. Waring, Senior Assistant Engineer.)

12. The district commences at the point near the top of the Railway Gorge where Mr. Mayes' district No. 1 terminates, and continues chiefly along undulating patanas for 2 miles and 31 chains.

No. 49A, 4th March, 1878.

13. As described by Mr. Waring in his report, the section is unusually heavy; numerous spurs run out at right angles to the course of the railway, round which it is impossible to take the line, and which in order to bring the earthwork within any reasonable limit necessitate the use of objectionable undulating gradients.

14. This district was thoroughly examined by Mr. Waring and myself, though in vain, in the hope of being able to adopt more level gradients; and those now chosen were only sanctioned because others were found to be prohibitory on account of cost.

15. At 1 mile 55 chains on this section the line crosses the Horton Plains road near to the spot where it was crossed by Mr. Stoddart's trace at about 3¼ miles on his plan.

16. *Gradients.* The details of the gradients will be found in Mr. Waring's appendix D.

It will be seen that no gradient is steeper than 1 in 55, and that the others are either 1 in 60, 1 in 66, or level.

17. *Curves.*—Of these, which number 24, having a total length of 1 mile 34 chains, only one has a radius of 5·74 chains; 11 curves have a radius of 6·37 chains with an aggregate length of 52½ chains: the others vary from that radius to one of 14 chains.

Summarized, the proportions are :—

	Curves.	Straights.
Length ...	1 mile 34·25 chains	0 mile 76·75 chains
Percentage	59·80	40·20

18. *Tunnels.*—The tunnels, two in number, aggregate 176 yards in length, and to provide for lining, if found to be necessary, they have been estimated at 73,503 rupees: or an average value of nearly 418 rupees per lineal yard.

AMBAWELLA STATION.

19. At the end of this district there is fortunately a suitable site for a station on a level of 16 chains in length. It is situated on the plain above the Ambawella valley, and at a distance not exceeding three miles from any of the New Galway estates. This station will take coffee from the last group of estates now existing until those at Idulgashena and Beauvais are reached, some ten miles further on.

20. The general plan of the station annexed provides all the accommodation likely to be required for passenger and goods traffic.

See drawing No. 6.

21. No engine shed is provided, it being considered preferable to erect it at the summit, where (from 4 miles 60 chains to 5 miles 7 chains) there are 20 chains of level gradient, suitable for a long siding and for engine shed, &c.

22. I should add that from Nánu-oya station to the summit, about 11½ miles, there is no gradient exceeding 1 in 50¾; and therefore it is hoped that ordinary trains can be worked with *one* engine as on the Nawalapitiya branch, where a similar gradient prevails for two miles; especially as the engines on the extension will probably be more powerful than those which at present work the Nawalapitiya traffic.

4th March, 1878.

23. Since the date of Mr. Waring's report the gradient from Nánu-oya station to Elk Plains, stated in his paragraph 15 to be 1 in 44, has been improved to 1 in 52·80.

24. Summarized, the estimate for this district, 2 miles 31 chains, is as follows :—

	Rs.	Rs.
Way and Works, steel rails throughout ...	539,165	
Stations	33,000	
Telegraph	1,313	
		573,778
Per mile, Rs. 240,326.		
Land and compensation ..	(Nominal.)	
Supervision	22,000	
Rolling stock	53,695	
		75,695
Per mile, Rs 31,704		
Total per mile, Rs. 272,030	Total, Rs.	649,473

AMBAWELLA TO HAPUTALE.

Third Section.—Length 16 miles 42 chains. (Mr. F. J. Waring, Senior Assistant Engineer.)

25. Mr. Waring having in his report so fully described the course of the railway between Ambawella and Haputale, I shall but briefly allude to the chief points there referred to. No. 118A, 26th June, 1878.

26. In paragraphs 4 and 5 of this report the reasons are given which induce me to regain Mr. Stoddart's trace on the Elk Plains, and to follow its general course with sundry deviations and improvements from that point to Haputalé. See key plan Ambawella to Haputale.

27. I take this opportunity of reporting the great assistance which Mr. Stoddart's plans have afforded to the Engineering Staff, especially in this neighbourhood; and I may perhaps be permitted to express my high appreciation of the great skill and ability he displayed in the preliminary choice of the route.

28. In paragraphs 8 to 10 of his report Mr. Waring explains the reasons which led him to diverge from Mr. Stoddart's trace at the summit, and to incur tunnels aggregating 34 chains in length, in order to avoid the Dambaketiya bend and effect a saving in distance of about 1 mile 30 chains at this spot, and also of about 40 chains near to the Ohiya trigonometrical station. There can be no doubt of the advantage of this change not only in first cost, but in permanent working expenses. See Mr. Waring's report, paragraphs 14—16. See paragraph 26.

29. The country from the summit to Idulgashena is unfortunately *excessively rough*, and probably more unfavourable for a railway than any that can ordinarily be found, with the exception of the Ghaut or Alpine lines or the mountainous districts of South America. It gives me pleasure to speak of the great skill and care which has been exercised by the Engineering Staff in the staking out of this most difficult line; and with the same limitations as to curves and gradients, I believe no improvements can be made on it.

30. From paragraph 51 of Mr. Waring's report it appears that the total saving in distance of the adopted line as compared with Mr. Stoddart's on the 16½ miles of this district is 2 miles 24 chains; and in paragraph 52 Mr. Waring shews, that allowing for the 34 chains of tunnelling incurred by avoiding the Dambaketiya bend, the saving in construction (irrespective of saving in working expenses) amounts to Rs. 204,125.

31. The figures may be thus put :—

1st.—As there appears to be a *net* saving of 2 miles of line by the adoption of 34 chains of tunnelling, the total distance would otherwise have been 2 miles 34 chains.

2nd.—Assume cost of 1 mile of ordinary line at 220,000 rupees per mile.

Then cost of 2 miles 34 chains at 220,000 rupees .. 533,500 rupees.

Less cost of tunnel, including permanent way at 775,000 rupees per mile ... ... 329,375 „

Net saving in construction ... ... 204,125 „

32. *Gradients.*—From Ambawella to Demodara the steepest gradient is one of nearly two miles (157·24 chains) rising at 1 in 50·77; the summit is reached at 4 miles 60 chains, from which point to 5 miles 7 chains there are 27 chains of level at a height of 6,285 feet above datum, or say 6,215 above sea-level. See Appendix E.

33. At 5 miles 7 chains the falling gradients commence and are in the aggregate as follows :—

1 in 44 for 12 miles	21·38 chains.
1 in 52·80	35 „
1 in 132	16 „
Level (of which 40 chains are at Haputale Station)	70·34 „

34. *Curves.*—Of the curves, 134 in number, 63 have a radius of 6·37 chains; three are of 6 chains' radius; 7 curves are between 5 and 6 chains' radius, and only *one* curve has a radius of 5 chains.

RAILWAY EXTENSION.

FURTHER PAPERS

Summarized, the lengths and proportions of straights and curves are as follows :—

	Curves.	Straights.
Length ...	10 miles 13·28 chains ...	6 miles 28·44 chains
Percentage ...	61·53 ...	38·47

35. *Tunnels.*—Between Ambawella and Haputalé the tunnels, sixteen in number, aggregate in length nearly 1¼ mile (99·25 chains), of which 34 chains were purposely encountered at the summit and at Dambeketiya, in order to save a distance in the aggregate of about two 2 miles. A glance at the section will shew the excessively rough spurs in the Ohiya valley which necessitate this tunnelling, altogether some 25¼ chains in excess of the length which on the preliminary trace was anticipated.

See Sessional Paper 11. of 1874 Page at bottom 47—49.

Thus tunnelling anticipated by Mr. Stoddart .	40 chains.
Add to shorten distance	34 „
Additional on account of curves and final location ...	25¼ „
	99¼ chains.

The total cost of these tunnels, including lining where considered necessary, is estimated at 910,690 rupees, averaging 417 rupees per lineal yard.

36. *Excavation.*—I regret that this item is for a single line unusually heavy; the total cutting amounts to 935,824 cubic yards, or to an average of 56,717 cubic yards per mile. Of the above quantity, 455,721 cubic yards, or nearly one-half, is considered as rock, and, including lead and benching, the estimate for this item is Rs. 1,218,995, or to an average of Rs. 1·31 per cubic yard.

37. *Retaining Walls and Culverts.*—These items through so rough a country are naturally heavy, though not more so than was to be expected.

38. *Stations.*—These works, fully described in paragraphs 45 to 47 of Mr. Waring's report, provide all the accommodation required at the summit, at Idulgashena, and especially at Haputalé, where a shed for six engines, repairing shop, drivers' and guards' houses, additional sidings, &c., are included in the estimate, the total of which amounts to Rs. 137,500.

39. *Permanent Way.*—Steel rails throughout are provided on this, as well as in the other sections from Nánu-oya to Haputalé, with a sufficient margin for "guard" rails. The estimated rate, Rs. 45,816 per mile, is at present prices ample, and the cost will probably be less.

40. Summarized, the estimate from Ambawella to Haputalé 16 miles 41·72 chains, is as follows :—

		Rs.	Rs.
Way and Works ...		4,039,774	
Stations		137,500	
Telegraph		9,086	
			4,186,360
Per mile ..	Rs. 253,388		
Land and compensation ...		33,000	
Supervision		154,000	
Rolling stock		378,235	
			565,235
Per mile ...	Rs. 34,239		
Total per mile ...	Rs. 287,627		
			Rs. 4,751,595

41. A general summary of these estimates, Nánu-oya to Haputalé, is annexed; the totals of which are the following :-

Distance, 25 miles 39·20 chains.

		Per mile.
A. Way and Works, Stations, and Telegraph	Rs. 6,008,095	Rs. 235,704
B. Land and compensation, supervision and rolling stock ...	„ 880,581	„ 34,546
Grand Totals	Rs. 6,888,676	270,250

Taking the rupee at its value for the last twelve months, say at 1*s.* 9*d.*, these figures become :-

Total cost of construction £602,759.—Cost per mile, £23,657.

The items marked A. are those generally let by contract, whereas those marked B. are usually provided direct by a Railway Company or by a Government; hence this division.

42. Considering the excessive rough and difficult nature of the country traversed—that the estimate has provided liberally for works of a first class character; with steel rails throughout and with ample accommodation for stations—the result of the estimate is, in my opinion, satisfactory, and it will I think be so considered by the Consulting Engineer or by any other high professional authority. I can, in fact, entertain no hope that the line can be properly constructed for a less sum.

Concluding Remarks.

43. Allowing an additional one and a-half mile for carrying the line to Hatton Gap, instead of direct to Kuda-oya, the distance from Nawalapitiya to Nanu-oya will be about 41 miles 70 chains; add Nanu-oya to Haputale, 25 miles 39 chains: total, Nawalapitiya to Haputale, 67 miles 29 chains. And as Mr. Stoddart's trace through the Agras was 74 miles 72 chains, the adopted line is shorter by 7 miles 43 chains:—say 7½ miles. This result is also satisfactory.

44. I cannot conclude this report without recording my appreciation of the services of the engineering staff.

The survey from Nanu-oya to Ambawella, section No. 1, was undertaken by Mr. Wm. Mayes, assisted by Messrs. Greswell, Herbert Mayes, and Durnford.

45. The line from Ambawella No. 1 to Haputale, about 19 miles, was laid out by Mr. Waring, assisted by Messrs. Albrecht, Stafford, Frewin, Oliver, and Dancer.

Owing to the late unusually wet season, the survey on this district could not be commenced till the middle of last January: the fieldwork was finished by the end of May, and the plans and reports were ready by 4th instant.

46. In fact, with only a small staff the line from Talawakele to Haputale, a distance of fully 37½ miles, a large portion of which is through forest, has been set out and estimated within the last fourteen months—say from May, 1877, to this date.

To all these gentlemen, and especially to Mr. Waring, Senior Assistant Engineer, my best thanks for their energy and ability are due.

47. On 19th instant Mr. Waring will take to Colombo, for His Excellency's inspection, all the plans and drawings from Nanu-oya to Haputale, previous to conveying them by P. and O. Steamer to London on 31st instant; and I beg that he may be instructed at what office they should be delivered.

48. As many copies of these reports and estimates will probably be required, may I be allowed to suggest that they be printed previous to Mr. Waring's departure?

49. A list of the papers connected with this report is hereto annexed.

I Have, &c.,
J. R. MOSSE, M. Inst. C. E.

General Summary of Estimate Nanu-oya to Haputale.

	Distance		Way and works	Stations.	Telegraph.	Total.	Land and compensation.	Supervision.	Rolling stock.	Total.	Grand Total.
	m.	chs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Section No. 1.											
Nanu-oya to Ambawella ...	6	46·48	1,243,513	Nil	4,444	1,247,957	28,875	65,162	145,614	239,651	1,487,608
Section No. 2.											
Nanu-oya to Ambawella ..	2	31·00	539,465	35,000	1,313	573,778	Nominal	22,000	53,095	75,695	649,473
Section No. 3.											
Ambawella to Haputale ...	16	41·72	4,039,774	137,500	9,086	4,186,360	33,000	154,000	378,235	565,235	4,751,595
Total ...	25	39·20	5,822,752	170,500	14,843	6,008,095	61,875	241,162	577,544	880,581	6,888,676
Per mile.	...		...	...	...	235,704	...	...	...	34,546	270,250

Alignment

	Curves. Miles.	Chains.		Straights. Miles.	Chains		Per-centage. of curves.		Per-centage. of straights.
Section No. 1.									
Nanu-oya to Ambawella ...	3	75·52	...	2	50·96	..	66·80	..	33·20
Section No. 2.									
Nanu-oya to Ambawella ...	1	34·25	..	0	76·75	...	59·80	...	40·20
Section No. 3.									
Ambawella to Haputale ...	10	13·28	...	6	28·44	...	61·53	...	38·47
	15	43·05		9	76·15				

Total...25 miles 39·20 chains.

RAILWAY EXTENSION.

FURTHER PAPERS.

NANU-OYA TO HAPUTALE.

Sessional Paper No. XI. of 1874. Report, 4th July, 1874.

List of Papers herewith forwarded.

No. 1.—Mr. Mayes' estimate and details, Nanu-oya to Ambawella, section No. 1.
No. 2.—Mr. Waring's report and estimate, Nanu-oya to Ambawella, section No. 2.
No. 3.—Mr. Waring's report and estimate, Ambawella to Haputale.
No. 4.—Appendices to above report.

List of Drawings sent under Mr. Waring's charge.

See Mr. Waring's Appendix A.

Nanu-oya to Ambawella section No. 1.
Plan and Longitudinal section.
24 sheets of cross sections.
9 drawings of bridges.

Nanu-oya to Ambawella, Section No. 2.
Plan and Longitudinal section.
Cross sections 7 sheets, and cross section of streams 1 sheet, in one book.

See Mr. Waring's Appendix A.

Ambawella to Haputale, section No. 3.

Plans Ambawella to Demodara	... ...	6 sheets.
Demodara to Idulgashena ..	.. ...	5 „
Idulgashena to Haputale	... ...	5 „
	Total ..	16 sheets.
Longitudinal section	... ...	5 rolls.
Cross sections:—		
Ambawella to Haputale	... ...	3 books.
Cross section of streams, 9 sheets	... ...	1 „

Bridges No. 5, Nos. 1 to 5 inclusive. Station Plans No. 3, Nos. 6 to 8 inclusive. One Key Plan of line shewing Topography.

NANU-OYA TO ELK PLAINS.

Mr. W. M. MAYES' Revised Line as altered to a Gradient of 1 in 52·80.—29th June, 1878.

Estimate of a single line of Railway, 5 ft. 6 in. gauge, from Nanu-oya to the Ambawella District.

Section No. 1A. Distance of 6·582 miles. Line as altered to a Gradient of 1 in 52·80.—29th June, 1878.

List of Plans from which the Estimate has been calculated is as follows :—

1 Plan of Ground.
1 Longitudinal Section over centre line.
24 Sheets Cross Sections 1 to 24.
8 Sheets Bridge Plans; four as sent in March 30th, four new designs.
1 Design for viaduct = 9 sheets in all.

NANU-OYA TO AMBAWELLA DISTRICT:—SECTION NO. 1.

LIST of Alinentions of centre line of Railway. Line as altered to a Gradient of 1 in 52·80.

No. of curve	Radius. Right.	Radius. Left.	Angle	Curve begins. M.	C.	L.	Ends. M.	C.	L.	Length.	Straight.	Tangent	REMARKS.
			° ′							chains.	chains.	chains.	
1	6·36	—	69·02	0	0	48	0	8	15	7·67	·48	4·378	
2	—	8·18	33·14	0	10	39	0	15	74	4·75	2·24	2·441	
3	6·36	—	15·23	0	19	89	0	21	60	1·71	4·75	0·86	
4	—	5·46	146·02	0	23	36	0	37	27	13·91	1·76	8·37	
5	9·55	—	41·21	0	40	30	0	47	18	6·88	3·63	3·60	
6	—	6·36	39·54	0	49	48	0	54	25	4·77	2·30	2·31	0·49 to 0·50 = 64 links (on curve.)

Alinenations—continued.

No. of Curves.	Radius. Right.	Radius. Left.	Angle.	Curve begins. M. C. L.	Ends. M. C. L.	Length. chains.	Straight. chains.	Tangent. chains	REMARKS.
7	5·73	—	144 04	0 56 07	0 70 49	14·42	1·82	1·76	
8	—	6 36	46 48	0 71 50	0 76 70	5·20	1·01	2·75	
8 A	Done away with.								
9	14·32	—	8·30	0 78 00	1 0 12	2·12	1·30	1·06	
10	5·46	—	43·38	1 15 50	1 19 65	4·15	15·38	2 18	
11	—	6·36	82·10	1 21 00	1 28 25	7·25	1 35	4·08	
12	—	8·18	71·56	1 29 16	1 39 60	10·44	0·91	5·94	1·29 to 1·30 = 87 links (on curve.)
13	11·46	—	39·38	1 43 56	1 51 49	7·93	3·96	4·13	
14	—	6·36	44·54	1 53 88	1 58 86	4·98	2·19	2 63	
15	6 36	—	61·18	1 61 53	1 68 34	6·81	2·67	3·77	
16	—	6·36	61·12	1 70 78	1 77 57	6·79	2·44	3·76	
17	5·73	—	69 14	2 0 04	2 6 96	6·92	2·47	3·96	
18	—	6·36	90·00	2 9 25	2 19 24	9·99	2·29	6·36	
19	6 36	—	37 36	2 21 84	No. 1 Peg. + 1	4·17	2·60	2 17	
20	Done away with.								
21	—	6·36	49·34	No. 2 peg + 76.	No. 3 Peg + 31	5·55	1·75	2·94	No. 2 Peg to No. 3 Peg=94 links (on curve).
22	6·36	—	112·24	2 28 90	2 41 39	12·49	3·59	9 51	
23	6·36	—	41 02	2 47 57	2 52 11	4·54	6·18	2·38	
24	—	6·36	66·26	2 53 51	2 60 89	7·38	1·40	4·16	
25	6 36	—	34·18	2 63 59	2 67 40	3 81	2·70	1·96	
26	—	6·36	90 50	2 69 20	2 79 30	10 10	1·80	6·46	
27	5 73	—	51·34	3 1 87	3 7 03	5·16	2·57	2·77	
28	—	6·36	4·12	3 8 70	3 13 17	4 47	1·67	2·33	
29	—	6 36	23 13	3 17 50	3 20 08	2·58	4·33	1·67	
30	6·36	—	47 40	3 22 81	3 28 11	5·30	2·73	2·80	
31	—	6·36	23·01	3 29 33	3 31 89	2·56	1·22	1 29	
32	14·33	—	21·16	3 35 50	3 40 81	5·31	3·61	2·69	
33	6·36	—	30 44	3 46 67	3 50 09	3·42	5·86	1·75	
34	—	6·36	21·36	3 52 19	3 54 59	2·40	2·10	1·21	
35	19·10	—	6·13	3 64 37	3 66 44	2·07	9·78	1·01	
36	6·36	—	43·00	4 7 32	4 12 10	4·78	20·88	2·51	
37	8·18	—	21·36	4 16 84	4 19 93	3·09	4·74	1 56	
38	—	6·36	114·27	4 30 53	4 43 25	12·72	10·60	9·89	4·16 to 4·17 = 107.
39	6·36	—	32·40	4 45 80	4 49 13	3·63	2·25	1·86	
40	—	6·36	42·36	4 51 19	4 55 92	4·73	2·06	2·48	
41	6·36	—	95·43	4 65 18	4 75 82	10·64	9·26	7·03	
42	—	6·36	51·55	4 78 03	5 3 80	5·77	2·21	3·10	
							5·90		

Continued Alinealions.

No. of Curves.	Radius. Right.	Radius. Left.	Angle.	Curve begins M. C. L.	Ends M. C. L.	Length.	Straight	Tangent.	Remarks.
			°			chains.	chains.	chains.	
43	6·36	—	67·02	5 9 70	5 17 14	7·44	1·76	4·22	
44	—	6·03	76·15	5 18 90	5 26 93	8·03	1·85	4·73	
45	—	6·36	16·06	5 28 78	5 30 57	1·79	1·15	0·90	
46	11·46	—	5·12	5 31 72	5 32 76	1·04	7·62	0·52	
47	—	6·36	23·08	5 40 38	5 42 95	2·57	1·20	1·30	
48	6·36	—	10·66	5 44 15	5 46 34	2·19	10·45	1·09	
49	11·46	—	16·48	5 56 80	5 60 16	3·36	3·90	1·69	
50	—	6·36	55·28	5 64 06	5 70 22	6·16	1·55	3·34	
51	6·36	—	19·09	5 71 77	5 73 90	2·13	1·90	1·07	
52	—	6·36	14·50	5 75 86	5 78 07	2·27	1·82	0·83	
53	6·36	—	83·52	5 79 89	6 8 77	8·88	4·73	5·72	5·79 to 6·00 = 138.
54	6·36	—	56·52	6 13 50	6 19 82	6·82	2·75	3·45	
55	—	6·36	70·18	6 22 57	6 30 38	7·81	5·93	4·48	
56	—	6·36	15·54	6 36 31	6 38 58	2·27		1·14	Curves 66·80 per cent.
					Curves...	315·61	210·96	Straight.	Straight 33·20 per cent.

NANU-OYA TO AMBAWELLA DISTRICT; SECTION No. 1.—Line as altered to a gradient of 1 in 52·80.

Distance.	Length.	Gradient	Rise.	Fall.	Height of formation above datum.	Remarks.
M. C. L. to M. C. L. ...	M. C. L.					
0 0 0 „ 0 2 0 ...	2·00	Level ..	— ...	— ...	5360·00	
0 2 0 „ 3 4 0 ...	249·45 ...	1 in 52·80 ...	311·82 ...	— ...	5671·82	0·49 to 0·50 = 64 links. 1·29 to 1·30 = 87 „ 2·25 + peg 2 to 2·25 + peg 3 = 94 links.
3 4 0 „ 3 14 52 ...	10·52 ...	1 in 198·00 ...	3·49 ...	— ...	5675·31	
3 14 52 „ 6 38 58 ...	264·51 ...	1 in 52·80 ...	330·65 ..	— ...	6005·96	4·16 to 4·17 = 107 „ 5·79 to 6·0 = 138 „
Miles 6 ; Chains 46·48		—	645·96			

— = 55
+ = 45

Difference of chainage = −10

	Miles.
Chainage of Line	6 38 58 junction
Add...	0 8 00 from 2 m. 25 c. to 2 m. 26 c.
	6 46 58
Deduct ...	10 difference of chainage.
Total length..	6 46 48 = 6·5825 miles.

SECTION No. 1.—NANU-OYA TO AMBAWELLA DISTRICT.

Line as altered to a gradient of 1 in 52·80.

The prices in this Estimate are based upon the prices recommended by the Kandy Committee in their report of 25th July, 1876.

Length, 6,582 miles.

ESTIMATE of WAY and WORKS.

		Rs. Cts.		
Earthwork ...	...	487,267 50		
Masonry ...	...	261,202 10		
Tunnels, per yard Rs. 350...105 lin. yds.		36,750 0		
			Rs. 785,219 60	
Permanent Way, Fencing, Draining, &c.				
	Per mile.			
Permanent Way, steel ...	43,247			
Fencing and draining ...	3,520			
Provisional road for service of works	5,200			
Level-crossings and Guard-houses	500			
Telegraph ..	600			
6·582 miles at per mile	53,067	—	349,286	
			1,134,506·59	
10 per cent.			113,450·65	
Or, Rs. 189,601·52 per mile.				1,247,957·24

ROLLING STOCK, LAND, AND SUPERVISION.

	Per mile.		
Rolling stock, 6·582 miles at	20,112·00 ...	132,377·18	
Land and compensation for division of land, &c. ...	...	26,249·50	
Supervision during construction, 3 years, 6·582 miles at ...	9,000·00 ..	59,238·00	
		217,864·68	
10 per cent. ...		21,786·46	
			239,651 14
		Grand Total...	Rs. 1,487,608·38
Or, Rs. 226,011·60 per mile.			

NANU-OYA TO AMBAWELLA DISTRICT, SECTION No. 1.—Line as altered to a gradient of 1 in 52·80.

Retaining Walls.

Distance.		Dry Walls.	In Mortar.	Rate	Amount Rs. Cts	Total Amount. Rs. Cts.
M. C.	M. C.	cub. yds.	cub. yds.			
1 26·30 ...	—	... 352 ..		—		
Base in mortar	—	... —	... 228	—		
1 29·50 to 1 31·50 ..	—	... 735 ..	—	... —		
2 60. to 2 65· ...	—	. 1079 ..	—	.. —		
3 3· to 3 6·· ...	—	... 638 ...	—	—		
5 26· to 5 29· ..	—	... 596 ...	—	... —		
Base in mortar.	—	. — ..	222	—		
5 31·30 to 5 32·80 ...	—	.. 156 ...	—	... —		
5 35·50 to 5 38·50 ...	—	... 541 ...	—	... —		
Base in mortar	—	... — .	353	... —		
5 42·66 to 5 46·25 ...	—	... 474 ...	—	... —		
5 55·50 to 5 58·	—	385 ...	—	.. —		
Base in mortar	—	... — ...	156	—		
5 64·50 to 5 68·50 ...	—	... 711 ...	—	.. —		
Base in mortar	—	... — ...	769	.. —		
5 71·40 to 5 73·50 ...	—	.. 400 ...	—	... —		
Base in mortar	—	... — ...	65	... —		
	Dry walls.	... 6077 ...	—	.. 3 50 ...	21,269 50	
	Base in mortar	— ...	2348	... 6 50 ...	15,262 0	
3.15 56 ...	Packed slope, 1063 sq. yds.	—	...	1 0 ...	1,063 0	
					Total...	Rs. 37,594 50

RAILWAY EXTENSION.

FURTHER PAPERS.

NANU-OYA TO HAPUTALE.

NANU-OYA TO AMBAWELLA DISTRICT, SECTION NO. 1:

Square Culverts.

Line as altered to a Gradient of 1 in 52·80.

Distance.	Height of Bank.	Ft. In. 2 6	Ft. In. 2 0	Ft. In. 3 6	Double. Ft. In. 2 0	Double. Ft. In. 2 6
M. C. L.	feet.					
0 7 46	28 00	—	—	100	—	—
0 23 00	26 00	114	—	—	—	—
0 35 40	40 00	140	—	—	—	—
0 45 80	8 25	52	—	—	—	—
0 55 70	cutting 6 50	60	—	—	—	—
0 59 45	cutting 7 00	—	—	62	—	—
0 75 50	18 00	—	—	60	—	—
1 13 20	23 50	—	—	99	—	—
1 26 80	26 00	—	—	—	—	84 in steps
1 47 80	13 50	—	—	46	—	—
1 64 30	15 00	—	—	57	—	—
1 79 70	27 00	—	—	104	—	—
2 2 70	—	—	—	96 in steps	—	—
2 11 10	29 50	—	—	120	—	—
2 22 20	26 00	83	—	—	—	—
2 25 + Peg 5·70	7 00	50	half in steps	—	—	—
2 29 00	18 00	60		—	—	—
2 32 52	19 50	—	—	69	—	—
2 37 30	13 00		—	—	—	30
2 50 30	9 50	48		—	—	—
2 53 70	12 00	—	—	58	—	—
3 4 20	8 50	24	in steps	—	—	
3 5 80	9 00	24	in steps	—	—	—
3 15 56	34 00	—	—	146 in steps 30° fall		= 1 in 1·75 slope packed 1 in 1 for 1 ch.
				80		
3 47 60	21 00	—	—	86	—	—
3 50 70	25 00	—	—	78	—	—
3 54 00	14 50	—	—			—
3 56 20	4 00	30	—	—	—	—
3 68 56	15 50	—	—	70		—
4 4 26	2 0	—	in steps	32		—
4 18 70	32 0	114	—	—	—	—
4 33 30	24 0	80	—	—	—	—
4 71 30	27 0	88	—	—	—	—
4 77 75	15 20	57	—	—	—	—
5 20 0	23 50	—	—	95	—	—
5 57 40	13 50	40	half steps in mortar		—	—
5 67 40	17 50	40		—	—	—
5 72 70	21 0	41	extra masonry in mortar			—
6 14 70	13 0	66	half in steps		—	—
	19 =	1211		18 = 1438		2 = 414

NANU-OYA TO AMBAWELLA DISTRICT, SECTION No. 1.—Line as altered to a gradient of 1 in 53·09.

Arched Culverts and Bridges.

Distance. M.	C.	L.	Description.	Height of Bank.	Masonry.	Ashlar.	Backing.	Arches.	Excavation.	River diversion.	Paving.	Length of Arch.	Number of cross section sheet.	Bridge plan sheet number.	REMARKS.
				c. yds.	c. yds.	c. ft.	c. yds.	c. yds	c. yds.		sq. yds.	ft. in			
0	3	70	6 ft. Culvert	14·50	43	56	11⅔	18	55	—	—	37 8		No 1	
0	16	80	5 „ „	29·00	80½	45	23¼	18¼	123	—	—	73 0		„ 1	
0	63	75	30 „ Bridge	44·50	402⅔	1043	179¼	207½	311	—	-	76 9	..	„ 1	New Design.
0	68	15	8 „ Culvert	41·00	346	128	57	58	284	—	--	93 0	—	„ 2	
0	79	40	6 „ „	56·00	209	68	46	66¼	225	—	—	138 0	—	„ 2	
1	8	20	10 „ „	21·50	160	146	26	29	93	—	--	38 3		„ 2	
1	18	80	5 „ „	49·00	132¼	77	42½	37½	121	—	—	122 0	No. 5	1	
1	51	70	10 „ „	22·50	118	205	28	30	318	—	—	49 0	—	„ 2	
1	58	50	6 „ „	16·00	60⅔	147	9½	16⅔	84	—	—	34 0	--	„ 3	
1	66	60	8 „ „	31·50	137	79	42	44	171	—		63 3	...	„ 3	
2	6	27	5 „ „	37·00	245	73	33	31½	235	300	12	98 0	No. 7		
2	24	50	5 „ „	40·00	126	77	33½	32½	160	—	14½	104 0	—	„ 5	
2	38	28	30 „ Bridge	19·00	124	502	23	43	80	—	—	16 0	—	„ 3	
2	48	0	35 „ „	42·50	656	493	25	78½	222	—	—	16 0		„ 4	
2	66	0	10 „ Culvert	45·00	380	175	79	94¼	454		—	97 0	—	„ 4	
3	21	20	5 „ „	26·00	200	73	22½	22½	198	—	—	69 0	No. 12	„ 7	
3	25	70	5 „ „	20·50	171½	73	15	13	98	—	--	51 0	„ 12	„ 7	
3	33	85	5 „ „	27·00	210¼	73	21½	18	85	--	--	70 0	„ 12	„ 7	
3	38	40	8 „ „	28·00	189	106	44½	45	141	—	—	62 0	„ 12	„ 7	
3	65	90	8 „ „	19·00	362	3·2	7¼	10	115	—	—	16 0	—	„ 7	New Design.
3	79	50	5 „ „	32·00	89½	187	17¼	11¼	40	1,965		57 0	No. 14	„ 7	do.
4	10	0	20 „ Bridge	31·50	410	647	76	71	182	1,090	—	41 3		„ 8	do.
4	25	70	3 „ Culvert	48·00	109⅔	95	22	22⅔	118	—	--	137 0		„ 8	do.
4	43	0	15 „ „	31·00	349½	141	49⅔	68	301	—	-	47 6	No 18	„ 8	
5	5	70	8 „ „	33·00	191	128	11⅔	44½	133	-	—	71 0	„ 18	„ 2	
5	12	80	5 „ „	30·50	102½	77	49⅔	19½	133	-	---	77 0	„ 19	„ 5	do.
6·4 to 6·7			4-45 Arches	82·50	Viaduct.	—		—	—		—	-	—	„ 11	do.
6	18	65	5 ft. Culvert	42·50	147⅔	113	34½	33	331	—	-	104 6		„ 11	do.
6	30	30	3 „ „	46·00	100	45	20	21½	49	—	-	122 0	—	„ 11	do.
			TOTAL.		5,854½	5,404	1,082	1,207	4,970	3,355	26½				

ABSTRACT OF SQUARE CULVERTS.

Nanu-oya to Ambawella District.—Section No. 1.

Description.	Quantities. Lineal feet.	Rate Rs Cts.	Amount. Rs Cts.	Total Amount. Rs. Cts.
ABSTRACT OF MASONRY.				
Square Culverts.				
19 culverts 2 ft. 0 in. opening, including excavation and ends ...	1211 ...	11 0 ..	13,321 0	
18 culverts 3 ft. 0 in. opening, excavation and ends ...	1438 ...	13 0 ...	18,694 0	
2 double culverts 2 ft. 6 in. opening, excavation and ends ...	114 ...	20 0 ...	2,280 0	
				34,295 0
Extra to Culverts in steps.				
2·6 opening at Rs. 11·0 + 40 per cent. ...	572 ...	4 40 ..	2,516 80	
3·0 opening at Rs. 13·0 + 30 „ ..	337 ...	3 90 ...	1,314 30	
				3,831 10
Arched Culverts and Bridges. Abstract.				
Masonry ..	5854½ c. yds. ...	15 0 ...	87,817 50	
Arches	1207 „ ..	20 0 ..	24,140 0	
Backing	1082 „ ...	10 0 ...	10,820 0	
Ashlar	5404 „ ...	1 50 ...	8,106 0	
Excavation	4970 „ ...	1 0 ...	4,970 0	
Paving	26½ sq. yds. ..	3 0 ...	79 50	
Diversion, excavation	3355 c. yds. ..	1 0 ...	3,355 0	
				139,288 0
		Total ... Rs.		177,414 10

RAILWAY EXTENSION.

FIRSTLY PAPERS.

NANU-OYA TO HATTOTALE.

NANU-OYA TO AMBAWELLA DISTRICT, SECTION NO. 1.

Abstract of Masonry Viaducts.

Description.	Quantities.	Rate. Rs. Cts.	Amount. Rs. Cts.	Total Amount. Rs. Cts.
Viaduct at 6 miles 5 chains.				
4-15 feet arches in 82 feet bank.				
Masonry	1,161 cubic yds.	15 0	17,415 0	
Piers double-faced	734¼ „	20 0	14,685 0	
Arches	423⅜ „	20 0	8,470 0	
Backing	237¼ „	10 0	2,372 50	
Ashlar	992 cubic ft.	1 50	1,488 0	
Excavation	448 cubic yds.	1 0	448 0	
Asphalte and drain pipes through arch	—	—	500 0	
River diversion and packed slope ...	—	—	500 0	
				Rs. 46,193 50

NANU-OYA TO AMBAWELLA DISTRICT, SECTION NO. 1.

Line as altered to a Gradient of 1 in 52·80.

Abstract of Works.	Cubic yards	Rate Rs. Cts.	Amount Rs. Cts.	Total Amount. Rs. Cts.
Earthwork.				
Rock cutting	175,395	2 00 ..	350,790 00	
Earth cutting	... 239,933	.. 0 50 ..	119,966 50	
Benchings ...	... 8,661	... 0 50 ...	4,330 50	
Side cutting	... 24,361	... 0 50 ...	12,180 50	
				487,267 50
Banks	.. 397,119			
Masonry.				
Dry Retaining Walls .	... 6,077	3 50 ..	21,269 50	
Do. do. in Mortar	... 2,348	... 6 50 ...	15,262 00	
Packed Slope sq. yds	1,063	... 1 00 ...	1,063 00	
				37,594 50
39 Square Culverts ...	..	...	34,295 00	
Extra to Culverts in Steps	...	...	3,831 10	
28 Arched Culvert and Bridges	...	...	139,288 60	
				177,414 10
1 Viaduct, see above	...	...		46,193 50
2 Tunnels	105 lin. yds.	350·00	...	36,750 00
				Rs. 785,219 60

NANU-OYA TO AMBAWELLA DISTRICT, SECTION NO. 1.

Line as altered to a Gradient of 1 in 52·80

Land.	A. R. P.	Rs. Cts.	Rs. Cts.	Rs. Cts.
Coffee ...	12 1 9 ...	800 0 ...	5845 0	
Jungle in Coffee Estates ..	12 3 6 ...	250 0 ...	3196 62½	
Government Jungle ..	33 0 6	210 0 ...	6937 87½	
Patanas and land above 5800 feet	5 1 24 ...	50 0 ...	270 0	
Compensation, division of land, extra roads, drains, &c. ...	— ...	— ...	6000 0	
				Rs. 26,249 50

EARTHWORK DISTRIBUTION TABLE: NANU-OYA TO AMBAWELLA DISTRICT, SECTION NO. 1.—Line as altered to a Gradient of 1 in 52·80.

Cuttings						Banks			
No. of Cuttings.	Distance.	Quantities c. yards.	Rock. c. yards.	Earth. c. yards.	Volume to Bank.	Distribution Amount to Bank.	No. of Banks.	Distance.	Quantities.	Amount from Cuttings.
1	M C L M C L 0 3 95 to 0 5 43	263	—	263	263	263 to No. 1	1	M C L M C L 0 0 0 to 0 3 95	417	263 from No. 1 154 „ „ 2
2	0 12 4 to 0 15 50	3,265	653	2,612	2.612 .979 3,591	3.591 { 154 „ 1 3 437 „ 2 }	2	0 5 43 to 0 12 0	9,049	3,437 „ „ 2 2,150 „ „ 3 3,462 „ Side cutting
3	0 18 12 to 0 21 0	1,982	337	1,645	1.645 505 2.150	2,150 — „ 2	3	0 15 50 to 0 18 25	4.043	4.043 „ „ 4
4	0 25 7 to 0 33 55	26,763	12,750	13.813	13.813 19,125 2.938	26.763 { 4,043 „ 3 9.469 „ 4 13,051 „ 5 }	4	0 21 0 to 0 25 7	9.469	9,469 „ „ 4
5	0 40 55 to 0 45 60	1.736	—	1,736	1.736	1,736 — „ 5	5	0 33 25 to 0 49 55	16,901	13.051 „ „ 4 1.736 „ „ 5 2.014 „ Side cutting
6	0 52 45 to 0 61 0	8.566	3,169	5.397	5.397 4.754 10.151	10,151 { 3,458 „ 6 6,693 „ 7 }	6	0 45 60 to 0 52 45	3.458	3,458 „ „ 6
7	0 69 70 to 0 75 0	9.060	4.167	4,893	4,893 6,250 11.143	11,148 — „ 7	7	0 61 0 to 0 69 70	26.542	11.143 „ „ 7 6.693 „ „ 6 8.706 „ Side cutting.
8	0 76 22 to 0 77 45	720	93	627	627 139 766	766 — „ 8	8	0 75 0 to 0 76 22	994	766 „ „ 8 228 „ „ 9
9	1 3 0 to 1 6 45	7.352	1,911	5.441	5.441 2,867 8.308	8,308 { 228 „ 8 8,080 „ 9 }	9	0 77 45 to 1 3 0	16,185	8 080 „ „ 9 2 943 „ „ 10 1.833 „ „ 11 3.629 Side cutting
10	1 9 50 to 1 12 8	2,670	347	2.323	2.323 520 2,843	2,843 — „ 9	10	1 6 45 to 1 9 50	3,369	3,369 „ „ 11

EARTHWORK DISTRIBUTION TABLE.—*continued.*

Cuttings							Banks			
No. of Cutting.	Distance.	Quantities.	Rock.	Earth.	Volume to Bank.	Distribution Account to Bank.	No. of Bank.	Distance.	Quantities.	Amount from Cuttings.
11	M. C. L. to M. C. L. 1 13 90 to 1 17 50	11,908	5,239	6,669	6,669 7,859 14,528	14,528 { 5,339 to No. 10 4,980 „ 11 4,343 „ 12 1,866 „ 9 }	11	M. C. L. to M. C. L. 1 12 0 to 1 13 90	4,980	4,980 from No. 11
12	1 20 45 to 1 21 16	38	—	38	38	58 — „ 12	12	1 17 50 to 1 20 45	12,343	{ 38 „ „ 12 4,343 „ „ 11 7,962 „ „ 13
13	1 21 85 to 1 25 65	7,259	2,032	5,227	5,227 3,048 8,275	8,275 { 155 „ 13 7,962 „ 12 158 „ 14 }	13	1 21 16 to 1 21 85	155	155 „ „ 13
14	1 26 90 to 1 28 65	311	—	311	311	311 — „ 14	14	1 25 65 to 1 26 90	2,136	{ 158 „ „ 13 311 „ „ 14 1,367 „ „ 15
15	1 32 50 to 1 40 20	2,482	148	2,334	2,334 212 2,546	2,546 { 1,667 „ 14 879 „ 15 }	15	1 28 65 to 1 32 50	1,490	{ 879 „ „ 15 611 „ „ 16
16	1 42 92 to 1 47 34	1,690	—	1,690	1,690	1,690 { 611 „ 15 1,079 „ 16 }	16	1 40 20 to 1 42 92	2,585	{ 1,079 „ „ 16 1,214 „ „ 17 92 „ „ 18
17	1 48 25 to 1 51 0	1,214	—	1,214	1,214	1,214 — „ 16	17	1 47 31 to 1 48 25	281	281 „ „ 18
18	1 53 86 to 1 58 0	9,152	3,294	5,858	5,858 4,941 10,799	9,152 { 92 „ 16 281 „ 17 3,758 „ 18 5,021 „ spoil }	18	1 51 00 to 1 53 86	3,758	3,578 „ „ 18
19	1 59 25 to 1 63 68	3,696	—	3,696	3,696	3,696 { 724 „ 19 2,972 „ 20 }	19	1 58 00 to 1 59 25	724	724 „ „ 19
20	1 68 65 to 1 70 0	166	—	166	166	166 — „ 20	20	1 63 68 to 1 68 65	6,079	{ 2,972 „ „ 19 2,941 „ „ 21 166 „ „ 20
21	1 70 90 to 1 79 0	28,922	13,014	15,908	15,908 19,521 35,429	28,922 { 2,941 „ 20 1,014 „ 21 9,234 „ 22 15,738 „ spoil }	21	1 70 00 to 1 70 93	1,014	1,014 „ „ 21
22	2 3 80 to 2 5 20	740	—	740	740	740 — „ 22	22	1 79 00 to 2 3 80	9,234	9,234 „ „ 21
23	2 7.50 to 2 10.30	3,800	1,330	2,470	2,470 1,995 4,465	3,800 — „ 23	23	2 5 20 to 2 7 50	8,375	{ 3,800 „ „ 23 4,575 „ „ 24
24	2 12 0 to 2 21 75	18,942	8,334	10,608	10,608 12,501 23,109	18,942 { 4,575 „ 23 5,602 „ 24 2,265 „ 25 6,580 „ spoil }	24	2 10 30 to 2 12 00	5,602	5,602 „ „ 24

25	2 25 38 to No. 5 + 32	4,811	2,453	2,358	2,358 3,679 6,037	4.811	—	..	25	25	2 21 75 to 2 25 38	7,076	4,811 2,265	,, ,,	25 24
26	No. 6 to No. 7 + 20	64	—	64	64	64	—	..	26	26	No. 5 p. + 32 to No 6 p	220	64 156	,, ,,	26 27
27	No 8 + 80 to 2 27 90	890	—	890	890	890	156 630 104	,, ,, ,, ,, ...	26 27 28	27	No. 7 p. + 20 to 2 25 80	630	630	,, ,,	27
28	2 29 85 to 2 31 32	564	—	564	564		564	..	28	28	2 27 90 to 2 29 25	1,491	104 564 823	,, ,, ,, ,, ,, ,,	27 28 29
29	2 38 70 to 2 47 7	12,896	5,803	7,093	7,093 8,704 15,797	12,896	823 7,758 402 3,914	,, ,, ,, ,, ,, ,, .. spoil	28 29 3 spoil	29	2 31 32 to 2 38 70	7,758	7,758	,, ,,	29
30	2 50 90 to 2 53 0	461	—	461	461	461	—	..	30	30	2 47 07 to 2 50 90	863	402 461	,, ,, ,, ,,	29 30
31	2 53 96 to 2 59 40	16,421	4,762	11,659	11,659 7,143 18,802	16,421	603 15,818	,, ,, ...	31 32	31	2 53 0 to 2 53 96	603	603	.. ,,	31
32	2 68 95 to 2 71 0	6,993	3,282	3,711	3,711 4,923 8,634	6,993	—	..	32	32	2 59 40 to 2 68 95	32,771	15,818 6,993 2,133 7,827	,, ,, ,, ,, ,, tunnel .. No. 32a	31 32
	Tunnel.														
32a	2 73 50 to 2 76 38	17,381	8,169	9,212	9,212 12,253 21,465	17,381	7,827 9,554	,, ,, ,, spoil	32 spoil	—	—	—	—		
	Tunnel.														
32b	2 78 75 to 3 3 40	22,230	8,892	13,338	13,338 13,338 26,676	22,230	1,261 20,969	,, ,, ,, spoil	33 spoil	—	—	—	—		
33	3 5 90 to 3 11 10	19,790	7,124	12,666	12,666 10,686 23,352	19,790	8,108 11,682	,, ,, ,, spoil	35 spoil	33	3 3 40 to 3 5 90	1,261	1,261	,, ,,	32b
34	3 11 50 to 3 14 46	2,119	—	2,119	2,119	2,119	214 1,905	,, ,, ,, ,,	34 35	34	3 11 10 to 3 11 50	214	214	.. ,,	34
35	3 17 70 to 3 19 65	1,103	—	1,103	1,103	1,103	—	..	35	35	3 14 46 to 3 17 70	11,115	1,904 1,103 8,108	,, ,, ,, ,, ,, ,,	34 35 33
36	3 22 6 to 3 24 68	1,221	—	1,221	1,221	1,221	—	..	36	36	3 19 65 to 3 22 60	4,968	1,221 3,747	,, ,, ,, ..	34 37
37	3 29 25 to 3 33 08	8,492	2,377	6,115	6,115 3,505 9,620	8,492	3,747 3,533 1,212	,, ,, ,, ,, ,, ,,	36 37 38	37	3 24 68 to 3 29 25	3,533	3,533	.. ..	37

Earthwork Distribution Table.—*continued.*

Cuttings.							Banks.			
No. of Cutting.	Distance.	Amount in cubic yards.	Rock, cubic yards.	Earth, cubic yards.	Volume to Bank.	Distribution Amount to Bank.	No. of Bank.	Distance.	Quantities.	Amount from cuttings.
	M. C. L. M. C. L.							M. C. L. M. C. L.		
38	3 34 90 to 3 37 75	3,289	1,743	1,546	1,546 2,614 4,160	4,160 { 2,413 to No. 38 1,747 „ 39 }	38	3 30 0 to 3 34 90	3,625	1,212 from No. 37 2,413 „ „ 38
39	3 39 68 to 3 44 25	4,606	2,164	2,422	2,422 3,246 5,668	5,668 { 2,916 „ 39 2,772 „ 40 }	39	3 37 75 to 3 39 68	4,668	1,747 „ „ 38 2,916 „ „ 39
40	3 48 40 to 3 49 35	109	—	109	109	109 — 40	40	3 44 25 to 3 48 40	6,627	2,772 „ „ 39 109 „ „ 40 3,746 „ „ 41
41	3 57 50 to 3 64 10	13,383	6,290	7,093	7,093 9,435 16,528	13,383 { 3,746 „ 41 6,111 „ 41 3,526 „ 42 }	41	3 49 35 to 3 57 50	6,111	6,111 „ „ 41
42	3 71 55 to 3 79 12	4,184	1,505	2,676	2,676 2,257 4,933	4,181 { 1,792 „ 42 2,389 „ 43 }	42	3 64 10 to 3 71 55	5,318	3,526 „ „ 41 1,792 „ „ 42
43	4 2 90 to 4 9 5	6,174	—	6,174	6,174	6,174 { 5,534 „ 43 640 „ 44 }	43	3 79 12 to 4 2 90	7,923	2,389 „ „ 42 5,534 „ „ 43
44	4 11 30 to 4 14 50	4,928	1,330	3,598	3,598 1,995 5,593	5,593 { 3,025 „ 44 2,568 „ 45 }	44	4 9 05 to 4 11 30	3,665	640 „ „ 43 3,025 „ „ 44
45	4 20 50 to 4 24 32	5,892	4,065	1,827	1,827 6,097 7,924	7,924 — 45	45	4 14 50 to 4 20 50	11,495	2,568 „ „ 44 7,924 „ „ 45 1,003 „ Side cutting.
46	4 27 0 to 4 29 40	1,067	—	1,067	1,067	1,067 — 46	46	4 24 32 to 4 27 0	10,420	1,067 „ „ 46 3,803 „ „ 47 5,550 „ Side cutting.
47	4 34 35 to 4 40 90	10,654	3,196	7,458	7,458 4,794 12,252	12,252 { 4,349 „ 48 4,100 „ 47 3,803 „ 46 }	47	4 29 40 to 4 34 35	4,100	4,100 „ „ 47
48	4 45 35 to 4 52 85	2,228	557	1,671	1,671 835 2,506	2,506 — 48	48	4 40 90 to 4 45 35	6,855	2,506 „ „ 48 4,349 „ „ 47

49	4 56 40 to 4 60 70	1,781	356	1,425	1,425 534 1,959	1,781	1,678 111	,, 49 ,, 50	49	4 52 85 to 4 56 40	1,670	1,670	,, ,, 49
50	4 64 0 to 4 70 0	5,722	1,716	4,006	4,006 2,574 6,580	5,722	680 4,212 830	,, 50 ,, 51 ,, spoil	50	4 60 70 to 4 64 0	791	111 680	,, ,, 49 ,, ,, 50
51	4 73 45 to 4 76 90	3,402	1,020	2,382	2,382 1,530 3,912	3,402	1,481 1,249 672	,, 51 ,, 52 ,, spoil	51	4 70 0 to 4 73 45	5,693	4,212 1,481	,, ,, 50 ,, ,, 51
52	4 79 70 to 5 3 60	1,256	251	1,005	1,005 376 1,381	1,256	915 341	,, 53 ,, spoil	52	4 76 90 to 4 79 70	1,249	1,249	,, ,, 51
53	5 7 35 to 5 11 10	6,978	3,489	3,489	3,489 5,233 8,722	8,722	6319 2312	,, 53 ,, 54	53	5 3 60 to 5 7 35	7,234	915 6,319	,, ,, 52 ,, ,, 53
54	5 21 25 to 5 26 25	15,406	11,554	3,852	3,852 17,331 21,183	15,406	--	,, 54	54	5 11 10 to 5 21 25	17,718	2,312 15,406	,, ,, 53 ,, ,, 54
55	5 29 0 to 5 35 60	5,943	5,943	...	5,914	5,943	853 600 4490	,, 55 ,, 56 ,, spoil	55	5 26 25 to 5 29 0	853	853	,, ,, 55
56	5 38 35 to 5 44 10	6,803	6,803	.	6,803	6,803	771 6032	,, 56 ,, spoil	56	5 35 60 to 5 38 35	1,371	600 771	,, ,, 55 ,, ,, 56
57	5 45 40 to 5 53 0	5,281	5,281	..	7,921	5,281	109 219 4953	,, 57 ,, 58 ,, spoil	57	5 44 10 to 5 45 40	109	109	,, ,, 57
58	5 54 20 to 5 55 70	211	—	211	211	211	—	,, 59	58	5 53 0 to 5 54 20	219	219	,, ,, 57
59	5 57 85 to 5 64 65	7,244	4,829	2,415	7,244 2,415 9,659	7,244	1980 400 4864	,, 59 ,, 60 ,, spoil	59	5 55 70 to 5 57 85	2,191	211 1,980	,, ,, 58 ,, ,, 59
60	5 68 15 to 5 71 30	5,157	2,578	2,579	2,579 3,867 6,446	5,157	862 4295	,, 60 ,, 61	60	5 64 65 to 5 68 15	1,262	400 862	,, ,, 59 ,, ,, 60
61	5 74 70 to 6 1 45	8,777	4,388	4,389	4,389 6,582 10,971	10,971	2178 8793	,, 61 ,, 62a	61	5 71 30 to 5 74 70	6,473	4,295 2,178	,, ,, 60 ,, ,, 61
									62a	6 1 45 to 6 4 0	9,522	8,793 729	,, ,, 61 ,, ,, 62

EARTHWORK DISTRIBUTION TABLE.—*contd.*

Cuttings.							Banks.			
No. of Cutting.	Distance.	Quantities c. yards.	Rock. c. yards.	Earth c. yards.	Volume to Bank.	Distribution Amount to Bank.	No. of Bank.	Distance.	Quantities.	Amount from Cuttings.
	M. C. L. M. C. L.							M. C. L. M. C. L.		
62	6 8 0 to 6 14 10	4573	1,372	3 201	3.201 2,058 5,259	4.573 729 to No. 62 A 2273 „ 62 600 „ 63 971 „ 64	62b	6 6 90 to 6 8 0	2,273	2,271 from No. 22
63	6 15 25 to 6 17 75	1,787	536	1,251	1.251 804 2,055	2,055 — „ 64	63	6 14 10 to 6 15 25	600	600 „ „ 62
64	6 20 20 to 6 23 60	324	—	324	324	324 — „ 64	64	6 17 75 to 6 20 20	8,988	971 „ „ 62 2 055 „ „ 63 324 „ „ 64 5,638 „ „ 65
65	6 25 60 to 6 28 67	7408	3,333	4.075	4,075 4,999 9.074	9.074 5638 „ 64 631 „ 65 2605 „ 66	65	6 23 60 to 6 25 50	631	631 „ „ 65
66	6 34 20 to 6 38 50	2831	1.416	1.415	1,415 2,124 3,539	3,539 — „ 66	66	6 28 67 to 6 34 20	18.896	2.805 „ „ 65 3.539 „ „ 66 12,552 „ District No. 2.
		415,328	175,395	293,933						

ABSTRACT.

		Rs. Cts.		Rs.	Cts.
Rock, cubic yards	175,395	at 2 00	...	350,790	00
Earth „	239,933	„ 0 50	...	119,966	50
Side cuttings	24,361	„ 0 50	...	12,180	50
			Total...Rs.	482,937	0

June 29, 1878.

(Signed) W. M. MAYES.

Enclosure No. 1 in No. 1.

F. J. WARING, Esq., A.I.C.E., Senior Assistant Engineer, to J. R. MOSSE, Esq., Chief Engineer, Railway Extension Surveys.

No. 49 A.

Ceylon Government Railway Extension,
Camp, Dambagastalawa, 4th March, 1878.

Appendix A.

SIR,—I HAVE the honor to forward the following report upon, and estimate of, a line in continuation of Mr. Mayes' line from Nanu-oya, accompanied with plans, sections, cross-sections, and station plan, a complete list of which is appended. I have, for the sake of distinction, called this portion of the line the Nanu-oya to Ambawella district, naming the line about to be reported upon section No. 2, on the assumption that Mr. Mayes will call his part section No. 1.

Description of the Line.

2. Commencing at a stake numbered 77, the line curving to the left runs through a saddle at 0 miles with a tunnel 2½ chains long on the level. At 0 miles 2 chains a gradient rising at 1 in 66 begins; the line then inclining to the right passes through a saddle cutting 48 feet deep at 0 miles 25 chains, at which point the rising gradient ceases, and a level gradient two chains long is substituted for it. The line then falls at 1 in 66 to 0 miles 40 chains, where a level gradient begins, and continues up to 0 miles 64 chains. We have on this part of the line a cutting 35 feet deep through a saddle at 0 miles 46 chains, a 5-feet culvert under a heavy bank at 48·42 chains, a cutting 18 feet deep at 56 chains, and finally a 12 feet culvert under an embankment 88 feet high at 60·30 chains; I have adopted a culvert here instead of a viaduct, as it will, I think, afford ample waterway, and the bed of the stream having only a slight fall, it will be far cheaper.

3. At 0 miles 64 chains a rising gradient of 1 in 55 begins, which continues to 1 mile 17 chains. There is a tunnel 5½ chains long through a spur from 0 miles 65 chains to 0 miles 70·50 chains, a heavy embankment from 72 chains to 1 mile, and a cutting 52 feet deep through a saddle at 1 mile 4 chains. From 1 mile 17 chains the line runs on the level for 3 chains through another saddle cutting 46 feet deep, when a falling gradient of 1 in 55 begins, which is continued up to 1 mile 50·50 chains: from this point to 1 mile 55 chains the line is on the level. A rising gradient of 1 in 60 then begins, and this continues till the site selected for the Ambawella or Elk Plains station is reached at 2 miles 12 chains. Through the station ground we have a level gradient 16 chains in length terminating at 2 miles 28 chains, the end of the district.

4. The total length of this section is therefore from stake 77 to 2 miles 28 chains = 2 miles 31 chains.

5. While sharing your objections to an undulating gradient, I wish to explain the reasons for which I think its adoption is allowable on this section, which are as follows:—

1st.—The slight difference in formation level (53·70 feet) between the commencement of the line (6007·00 above datum), and the site selected for the station ground (6060·70 above datum). This site is the only one at all suitable for the purpose.

2nd.—The peculiar nature of the country through which the line passes. Thus the level of formation at the beginning being fixed to suit Mr. Mayes' requirements, it became necessary to rise as much as possible to reduce the cutting at 0 miles 25 chains, without increasing excessively the embankment at 0 miles 20 chains; after passing this cutting a falling gradient is required to reduce the heavy embankment at 0 miles 60 chains without increasing unduly the saddle cutting at 0 miles 46 chains. The tunnel from 65 chains to 70·50 chains is unavoidable in any case, as the spur is too sharp to get round. A rising gradient is then required to avoid tunnels at the two saddles at 1 mile 4 chains, and 1 mile 17 chains, which are through the necks of spurs jutting into the Dambagastalawa-oya, and which are too sharp to get round. From 1 mile 17 chains a falling gradient is necessary to reduce the embankment across the stream at 1 mile 53·15 chains, and also to get favourable ground from that point to the end of the district.

6. As the larger streams near their junction with the Dambagastalawa-oya run in ravines from 150 to 300 feet below the general level of the country, while the fall of their bed is generally but slight, any attempt to head them off would entail a very great increase to the length of the line, as well as in many cases heavy work in crossing their numerous affluents.

7. From the commencement of this section to 1 mile 55 chains the line runs more or less parallel to the Dambagastalawa-oya, the valley of which lower down is known as the Railway Gorge. Mr. Stoddart's preliminary line here is also more or less parallel to this stream, but on the other side of it. In the neighbourhood of our 1 mile 55 chains Mr. Stoddart's line crossed the Dambagastalawa, and from that point to the end of the district the two lines are practically identical.

RAILWAY EXTENSION.

[FURTHER PAPERS.

NANU-OYA TO HAPUTALE.

Curves.

8. The following is an abstract of the curves used on this section:—

1	curve of	5·74	chains radius	3·50	chains in length.	
11	"	6·37	"	52·50	"	"
3	"	7·16	"	10·00	"	"
2	"	8·19	"	10·75	"	"
4	"	9·55	"	20·00	"	"
1	"	10·42	"	5·50	"	"
1	"	11·46	"	4·00	"	"
1	"	14·33	"	8·00	"	"

9. From the above abstract it will be seen that the aggregate length of curves is 114·25 chains, or 59·8 per cent. of the total length of the section; while the straights amount in length to 76·75 chains, or 40·2 per cent. of the total length. Full particulars of the straights and curves are appended.

Appendix B.

Tunnels.

10. While believing that both of the tunnels on this section will pass through rock, I have yet thought it desirable to estimate for their partial lining to allow for heads, drainage, &c., and to provide against contingencies.

Earthwork.

11. From the commencement of the section to 1 mile 50 chains this item is exceptionally heavy, but from the latter point to the end of the district it is somewhat lighter than the average of other districts on which I have been engaged.

12. At some points rock crops out on the surface of the ground, and careful examination leads me to believe, that throughout the section gneiss or quartz rock, more or less solid, will generally be found at a depth not greater than from two to three feet below the surface.

13. The same sections for cuttings and embankments have been taken as on the Great Western district, viz.:—The embankments are 18 feet wide at the top, and when all earth have slopes of 1½ to 1, in all other cases the slopes are ¾ to 1. The cuttings when all rock have a base 16 feet in width and slopes ¼ to 1. In all other cases the base is 20 feet wide and the slopes are varied in accordance with the supposed nature of the contents; when all earth, they are 1 to 1. All rock has been estimated as increasing 50 per cent. in bulk, when taken out, and placed in embankment. (See your report of October 3rd, 1877, paragraphs 16 to 20).

Sessional Paper VI. of 1877, pages 8 and 14.

Ambawella Station.

14. This station is situated about three miles from the Ambawella or New Galway group of estates, and about 12 miles from Nuwara Eliya: its altitude above sea level is about 6,000 feet, or about 200 feet lower than Nuwara Eliya. As no important ridge intervenes, it would not be difficult to make a road with easy gradients between the station and that town, should Government at some future period think such a course desirable. The distance, however, being so great, and Nanu-oya station being only some five miles from Nuwara Eliya by the Lower Road Extension which is about to be commenced, I have assumed that for the present at any rate the Nuwara Eliya and Uda Pussellawa traffic will be accommodated there, while Ambawella station will derive the bulk of its traffic from the group of estates mentioned above. I have therefore estimated for a station here, somewhat similar in type to Wattegoda the only alterations being those necessary to suit the configuration of the ground: and forward a block plan shewing the accommodation proposed to be provided.

15. The question as to whether locomotive sheds and accommodation for drivers, &c., should be provided here, is one which, I think, cannot be decided with the information we have at present, for the following reason. I am aware that Mr. Mayes has at present, upon his portion of this district between Nanu-oya and the beginning of my section, a considerable length of a 1 in 44 gradient: this necessitates the use of two engines with the trains as far as this station, but I am unable to say at present whether it be possible to reach the summit near Totapola, which is about five or six miles beyond Ambawella, with gradients which will permit the line between these points being worked with a single engine; and it is therefore doubtful whether the extra engine could be detached here. As engine-sheds, &c., must be provided at the summit, where the descent to Haputale begins, I have not thought it necessary to allow in the estimate for them at this station.

Permanent Way.

16. This has been estimated for steel rails weighing 72 lbs. per yard. The only differences between this estimate and the one sent in for the Great Western district, are the smaller proportion of guard rails necessary, owing to the less length of curves under 6 chains radius, and the higher price I have allowed for transport, owing to the greater distance of the district from Nawalapitiya.

Sessional Paper VI. of 1877, page 16.

Estimate.

17. The following is an abstract of the estimate for the line under consideration, based upon the prices given by the Kandy Committee in their report dated 25th July, 1876. Full details of this estimate are appended.

NANU-OYA TO AMBAWELLA.—SECTION NO. 2.

Length of Line, 2 miles 31 chains = 2·3875 miles.

Way and Works.

Description.	Quantity.	Rate. Rs. Cts	Amount Rs. Cts.
Rock cuttings, cubic yards	105,417	2 0	210,834 0
Earth do. do.	7,913	0 50	3,956 50
Benching do.	5,000	0 25	1,250 0
Side do. do.	29,393	1 0	29,393 0
Tunnels, Appendix C. 1.	—	—	73,503 0
Retaining walls, Appendix C. 1.	—	—	4,431 68
Arched Culverts, Appendix C. 2.	—	—	26,059 8
Flat topped Culverts, Appendix C. 3	—		13,543 7
Permanet way per mile, Appendix C. 4.	—	15,383 3	108,351 91
Fencing per mile	—	3,000 0	7,162 50
Cart road per mile	—	5,000 0	11,937 50
			490,422 24
		Add for contingencies	49,042 76
		Total...Rs.	539,465 0
		Or, per mile .Rs.	225,954 0

Stations, Supervision, &c.

Ambawella station		30,000 0
Telegraph at Rs. 500 per mile		1,193 75
Engineering supervison		20,000 0
		51,193 75
	Add for contingencies...	5,119 25
	Total, Rs....	56,313 0
	Or, per mile, Rs.	23,586 0
Way and works as above		539,465 0
Stations, Supervision, &c.		56,313 0
	Total.. Rs.	595,778 0
	Or, per mile . Rs.	249,540 0

18. It will be observed that the mileage rate of the foregoing estimate is heavier than that on any other portion of the line. This is principally owing to the exceptionally heavy earthwork on the first portion of the section, and also to the fact that we have here the cost of two tunnels and a station distributed over less than 2½ miles of railway.

19. It will be also noticed that the item of land does not appear in the estimate. This is omitted as the line runs through Crown land the whole way, and as it is nearly all "patana" its value is merely nominal.

20. Rolling stock is also not included in the foregoing estimate. If my estimate for this item on the Great Western district—viz., 269,900 rupees for 12 miles or 22,490 rupees per mile approximately—be considered a fair one, a sum of 53,695 rupees should be added to the grand total as given in paragraph 17 of this report to cover its proportional cost for this section, thus raising the total amount to 649,473 rupees, or per mile 272,030 rupees.

For details see Sessional Paper VI. of 1877, page 17.

21. In conclusion, I wish to state that this work has been much delayed by the heavy rains in November, December, and January, which by hindering the erection of the camps, prevented us from commencing work as early as we otherwise should have done; and I also desire to tender my thanks to Mr. H. Oliver, who has assisted me on this section.

I have, &c.,
F. J. WARING, A.I.C.E.,
Senior Assistant Engineer.

RAILWAY EXTENSION.

FURTHER PAPERS.

NANU-OYA TO HAPUTALE.

APPENDIX.

A.

NANU-OYA TO AMBAWELLA.—SECTION NO. 2.

List of Plans, Sections, &c., accompanying Report.

General Plan, in 3 sheets, shewing features of the country.

Longitudinal section	...	...	1 roll.
Cross sections	...	...	7 sheets } in one book.
Cross sections of streams	..	...	1 " }
Block Plan of Ambawella Station.			

B.

NANU-OYA TO AMBAWELLA DISTRICT.—SECTION NO. 2.

List of Straights and Curves.

Distance From		Distance To		Radius of Curve.	Direction of Curve.	Length of Curve	Length of Straight
Miles	Chains.	Miles.	Chains.	Chains.		Chains.	Chains
	77·		79·				2·00
	79·	0	9·75	6 37·	L	10 75	
	9 75		11·				1 25
	11·		20·50	9 55	R	9 50	
	20·50		23				2·50
	23·		27·	11·46	R	4	
	27·		34·				7·
	34·		38·50	9 55	R	4·50	
	38 50		43·				4 50
	43		46·	9 55	L	3·	
	46·		47·25				1·25
	47·25		52·	6·37	R	4·75	
	52		54·				2·
	54·		57·	6·37	L	3·	
	57		58·50				1·50
	58·50		64·50	6·37	R	6·	
	64·50		66·25				1·75
	66·25		71·50	6·37	L	5·25	
	71·50	1	2·				10·50
	2·		4 50	6 37	R	2·50	
	4 50		6				1·50
	6·		10·	6·37	L	4·	
	10·		18·	14·33	L	8·	
	18·		26·				8·

Distance From		Distance. To		Radius of Curve.	Direction of Curve	Length of Curve.	Length of Straight.
Miles.	Chains	Miles.	Chains.	Chains.		Chains.	Chains.
1	26	1	29·50	8·19	L	3 50	
	29·50		31·				1·50
	31·		38 50	6 37	R	7·50	
	38·50		40·25				1·75
	40·25		44·	6·37	L	3·75	
	44		45·50				1·50
	45·50		52 75	8 19	R	7·25	
	52·75		59·				6·25
	59		62·	6·37	L	3·00	
	62·		67·50	10·42	L	5·50	
	67·50		70·				2·50
	70		73·	9 55	R	3·00	
	73·		74·				1
	74·		76·50	7·16	L	2·50	
	76·50		78·				1·50
	78	2	1·50	5·74	R	3·50	
2	1·50		5·				3·50
	5·		8·	7·16	L	3·00	
	8·		9·50				1·50
	9·50		14·	7·16	R	4 50	
	14·		26·				12·00
	26·		31·	6·37	R	5·00	
	31·		32·50				1·50

NOTE.—Estimate made only up to 2 miles and 28 chains.

Abstract.

				Length.	
1	curve	5·74	radius...	3·50	chains
11	"	6·37	" ...	52·50	"
3	"	7·16	" ...	10·00	"
2	"	8·19	" ...	10·75	"
4	"	9·55	" ...	20·00	"
1	"	10·42	" ...	5·50	"
1	"	11·46	" ..	4·00	"
1	"	14·33	" ...	8·00	"

C. 1.

NANU-OYA TO AMBAWELLA.—SECTION NO. 2.

Tunnels and Dry Retaining Walls.—Quantities and Estimate.

From	To	Length	Length	Remarks	Description.	Quantities.	Rate	Amount.	Total.
	M. C.	C.	YDS		yds. c. yds	c. yds	Rs.	Rs. Cts	Rs. Cts.
Stake 79	0. 1·50	2 50	55	¼rd lined	Excavation in 18¼ of lined tunnel at 40 pr. yd. fwd.	733·20	10	7332 0	
					" 36¾ unlined " 31 "	1136·46	10	11364 60	
					Masonry 18¼ lined " 10 "	183·33	30	5499 90	24196 50
M. C. 0 65	0 70·50	5 50	121	¼th lined	Excavation in 30¼ of lined tunnel at 40 pr. yd. fwd.	1210·00	10	12100 0	
					" 90¾ unlined " 31 "	2813·25	10	28132 50	
					Masonry 30¼ lined " 10 "	302·50	30	9075 0	49307 50
					Total Rs				73503 0

DRY RETAINING WALLS TO EMBANKMENTS.

Quantities and Estimate.

55 lineal yards at	5·83	cubic yards per yard forward...	320·65	cubic yds.
22 "	9·79	" ...	215·38	
33 "	17·33	" ...	571·89	

Total, cubic yards... 1107·92 at Rs. 4·0 per cubic yard = Rs. 4,431·68.

C. 2.

NANU-OYA TO AMBAWELLA.—SECTION NO. 2.

Arched Culverts.—Quantities and Estimate.

Mileage. miles.	chs.	Description. ft.	in.		Height of Bank. ft.	in.	Length of Culvert. ft.	in.	Excavation for Foundations. c. yds.	Remarks.
0	20·85	5	0	Arch	45	0	106	0	30·56	14 in. brickwork in arch.
	48·42	5	0	"	36	6	86	0	25·36	" "
	60·30	12	0	"	88	0	187	0	120·0	" "
	73·16	5	0	"	40	0	101	0	29·26	14 in. brickwork in arch.
	53·15	5	0	"	31	6	76	0	22·76	
							Cubic yards ...		227·94	

Estimate for Arched Culverts.

	Each. Cubic yards.	Total. Cubic yards	Rate. Rs. Cts.	Amount. Rs. Cts.
Rubble Masonry.				
In one 12 ft. 0 in. culvert in ends and wings at ...	110·55	110·55		
" " 187 lin. ft. of abutments...	3·03	566·61		
In four 5 ft. 0 in. culverts in ends and wings at ...	20·27	81·08		
" " 369 lin. ft. of abutments...	0·728	268·63		
		1026·87	15 00	15,403 05
Backing to Arches.				
In one 12 ft. 0 in. culvert 187 feet run at	1·02	190·74		
In four 5 ft. 0 in. culverts 369 feet run at	0·238	87·82		
		278·56	10 00	2,785 60
Brickwork in Arches.				
In one 12 ft. culvert 187 feet run (18 in. brickwork) ...	1·17	218·79		
In four 5 feet culverts 369 feet run (14 in. brickwork) ...	0·42	154·98		
	Cubic feet	373·77	20 00	7,475 40
Ashlar Caps and Strings.				
In one 12 ft. 0 in. culvert ..	56·75	56·75		
In four 5 ft. 0 in. culverts ..	13·66	54·64		
		111·39	1 50	167 09
Excavations for foundations ...	Cubic yards ...	227·94	1 00	227. 94
			Total... Rs.	26,059 08

RAILWAY EXTENSION.

FURTHER PAPERS

NANU-OYA TO HAPUTALE.

C. 3.

NANU-OYA TO AMBAWELLA.—SECTION No. 2.

Flat-topped Culverts.—Quantities and Estimates

Mileage		Description		Height of bank.		Length of culvert		Excavation for foundation.
miles.	chains.	ft. in.		ft. in.		ft. in.		c. yds.
0	4·27	2 6	Culvert	23 0		71 0		12·24
	10·95	2 6	"	31 0		86 0		14·34
	17·16	2 6		30 0		82 0		13·69
	30·20	2 6	"	11 0		36 0		7·34
	39·67	2 6	"	22 0		66 0		11·54
	43·17	2 6		2 0		19 0		4·87
	78·63	Double 2 6	"	19 0		55 0		14·75
	11·31	2 6		32 0		105 0		17·00
	22·50	2 6	"	22 0		94 0		15·46
	32·75	Double 2 6	"	35 0		96 0		24·62
	38·	2 6	"	14 6		51 0		9·44
	46·50	2 6		29 0		91 0		15·04
	63·52	2 6	"	31 0		88 0		14·62
	69·	2 6	"	30 0		84 0		14·06
	77·05	2 6	"	24 0		72 0		12·38
	79·70	2 6	"	26 6		73 0		12·52
	12·00	2 6		28 6		85 0		14·20
	19·42	2 6		16 0		58 0		9·42
						Total, cubic yards		237·53

Estimate for Flat-topped Culverts.

	Each c. yds	Total. c. yds	Rate. Rs. Cts.	Amount. Rs.	Cts.
Rubble Masonry.					
In ends of two double 2 ft. 6 in. culverts	2·65	5·30			
" walls of do do do 151 feet run	1·207	182·26			
" ends of sixteen 2 ft. 6 in. culverts	1·57	25·12			
" walls of do. do. 1,161 feet run	73	847·53			
		1060·21	12 0	12,722	52
Concrete					
In 151 ft. run of double 2 ft. 6 in. Culverts	0·113	17·06			
1,161 do 2 ft. 6 in. Culverts	0·609	80·11			
		97·17	6 0	583	02
Excavations for foundations		237·53	1 0	237	53
			Total Rs.	13,543	07

C. 4.

NANU-OYA TO AMBAWELLA.—SECTION No. 2.

Estimate for one mile of Permanent Way.

	Description	Weight	Total Weight. Tons.	Rate. Rs.	Amount. Rs.	Cts.
3520 yards	Steel rails	72 lbs. per yard	113·14	150 per ton	16,971	0
1008 No.	Fish plate	9·13 lbs. each	4·11	120 "	493	20
2016 "	Fish bolts	1·45 "	1·30	260 "	338	0
4032 "	Fang bolts	3·72 "	6·69	260 "	1,739	40
4032 "	Spikes	1·00 "	1·80	210 "	378	0
2016 "	Sleepers	—	118·	365 each	7,358	40
40 yards	Guard rails	40 lbs. per yard	0·72	100 per ton	72	0
48 No.	Cast Iron blocks	5·38 lbs. each	0·11	120 "	13	20
48 "	Bolts and nuts	1·88 "	0·04	300 "	12	0
48 "	Spikes	1·00 "	0·02	210 "	4	20
	Transport		245·93	30 "	7,377	90
	Plate-laying		—	—	1,000	0
4400 c. yds.	Ballast at 2½ c. yds per per yard forward		—	1·25	5,500	0
					41,257	30
				Add 10 per cent. for sidings	4,125	73
				Total Rs.	45,381	3

NOTE.—The above estimate is calculated on the assumption that guard rails will be necessary only on curves of and under 6 chains radius, such curves aggregate in length about 1-50th of the district.

C. 3.

NANU-OYA TO AMBAWELLA.—SECTION No. 2.

Earthwork Distribution Table.

Mileage.	Rock Cuttings. Cub. Yds.	Earth Cuttings Cub. Yds.	Side Cuttings. Cub. Yds	Embankments. Cub. Yds.
Stake 77 to 1 m. 25½ chs. ...	67,747	2213	29,393	125,382
1 m. 25½ chs. to 2 m 28 chs.	37,670	5700	—	54,130.
Totals...	105,417	7913	29,393	179,512

Estimate.

	Cub. Yds.		Rs.	Cts.
Rock Cutting,	105,417	at Rs. 2 per c. yd. =	210,834	0
Earth „	7,913	at Rs. 0·50 „	3,956	50
			214,790	50

			Rs.	Cts.
Side Cuttings,	29,393	c. yds. at Rs. 1 per c. yd. =	29,393	0
Benching,	5,000	c. yds. at Rs. 0·25 per c. yd. =	1,250	0

D.

NANU-OYA TO AMBAWELLA.—SECTION No. 2.

List of Gradients.

From		Height above datum.	To		Height above datum.	Length.	Gradient.	Remarks.
			miles.	chs.		chains.		
Stake miles.	77 chains.	6007·00	0	2	6007·00	5·00	Level	
0	2	6007·00	0	25	6030·00	23·00	1 in 66	Rising.
0	25	6030·00	0	27	6030·00	2·00	Level	
0	27	6030·00	0	40	6017·00	13·00	1 in 66	Falling.
0	40	6017·00	0	64	6017·00	24·00	Level	
0	64	6017·00	1	17	6056·60	33·00	1 in 55	Rising.
1	17	6056·60	1	20	6056·60	3·00	Level	
1	20	6056·60	1	50·50	6020·00	30·50	1 in 55	Falling
1	50·50	6020·00	1	55	6020·00	4·50	Level	
1	55	6020·00	2	12	6060·70	37·00	1 in 60	Rising.
2	12	6060·70	2	28	6060·70	16·00	Level	Ambawella Station ground.

RAILWAY EXTENSION.

FURTHER PAPERS.

NANU-OYA TO HAPUTALE.

Appendix A.

Enclosure No. 2 in No. 1.

F. J. WARING, Esq., A.I.C.E., Chief Assistant Engineer, to J. R. MOSSE, Esq., Chief Engineer, Ceylon Government Railway Extension.

No. 118 *a*. Nuwara Eliya, 26th June, 1878.

SIR,—I have the honor to state that the line from Ambawella to Haputale Pass is staked out, and beg to forward the following report upon and detailed estimate for the same, accompanied with complete plans, sections, cross sections, drawings, and block plans of stations, a list of which will be found in the appendix.

2. In order that this report may be clearly understood, it is necessary, I think, to briefly explain the general plan of operations adopted. You are aware that the greater part of the country in the neighbourhood of the summit of the line is covered with dense forest, and is within reach; it was therefore practically inaccessible until the engineers' camps had been built, and it was consequently impossible to carry the mileage and levels continuously through the district. Under the circumstances, as it was desirable, in order to save time, to employ three parties of engineers, it became a question how most advantageously to dispose of them. After due consideration I decided, with your approval, upon Idulgashena gap, a point about 10 miles from Haputale Pass, where I knew it was desirable to locate the line at as high a level as possible, as being a convenient spot for two parties of engineers to begin at; one party consisting of Mr. Stafford assisted by Mr. Dancer working downwards towards Haputale, while another party consisting of Messrs. Albrecht and Brown worked upwards to meet me, who with Mr. Oliver continued the line from Ambawella. It will thus be understood that Idulgashena is a starting point for the mileage of two sections, one going upwards, another downwards. Mr. Stoddart's preliminary line and levels were less of the greatest assistance to me, for without them we should have had no fixed point to begin at, and should have of course been in entire ignorance as to even the approximate distance from Idulgashena to the summit.

GENERAL DESCRIPTION OF THE LINE.

3. *First Section.*—The line commences at 2 miles 28 chains, the termination of the Nanu-oya to Ambawella district section No. 2, and runs on the level for 0·76 chains to 2 miles 28·76 chains, where a rising gradient of 1 in 50·77 or 1·30 feet per chain begins, and, following a generally easterly direction with average work along the same hillside as Mr. Stoddart's preliminary line, reaches the neighbourhood of Ambawella trigonometrical station at 2 miles 76 chains, where a heavy cutting is encountered; passing through this, it crosses at 3 miles 1 chain a deep swampy hollow which up to this point has been more or less parallel to the line the whole way from Ambawella station; curving then to the right it runs along the crest of the Ambawella saddle (the highest ground to be obtained) with an embankment 13 chains long. We have a short embankment 50 feet high at 3 miles 19 chains, a 20 feet girder bridge over a considerable stream at 3 miles 30·41 chains, and a heavy rock-cutting at 3 miles 33 chains, after which the line is practically a surface one and nearly straight, running in a south-easterly direction through swampy ground and pataam as far as 4 miles 9 chains.

4. To ascertain the practicability of making the line through this swampy ground without incurring unreasonable expense, I caused borings to be taken, with the general result that rocky or hard gravelly bottom was obtained at a general depth below the surface of from 2 to 5 feet; in one case only, viz., in the neighbourhood of 3 miles 58 chains were we able to penetrate to a depth of 19 feet 6 inches by jumping an iron rod into the mud. I have allowed in the estimate for forming a base of faggots, &c., for the embankment on this part of the line, and for large side ditches as well as for concrete to form a foundation for the culverts.

5. After passing these swamps the line enters the forest and runs through a ridge at 4 miles 20 chains with a cutting 23 feet deep, after which it is again nearly a surface line as far as 4 miles 50 chains; at 4 miles 39·85 chains the Pattupola-ella, an artificial irrigation cut, is crossed by a 5-feet arch. This cut conveys water falling on the slopes of Totapolla, which would otherwise find its way into Dimbula through the ridge at Pattupola by a short tunnel about 50 feet below the surface of the ground into Uva. At the head of the ella there is a masonry dam diverting the water from a stream into it; this work was made entirely by Sinhalese, and is perhaps of sufficiently remarkable a character to warrant my referring to it.

6. At 4 miles 26 chains the rising gradient of 1 in 50·77, which has been kept from 2 miles 28·76 chains, ceases, and a level gradient is substituted for it as far as 4 miles 40·10 chains. This rising gradient has been adopted as it was necessary to rise as fast as possible to keep above the swamps just alluded to, and this gradient is the steepest which I understand can, in your opinion, be advantageously worked by a single engine. This point I have kept prominently in view in locating the line between Ambawella and the summit especially, as I am informed that Mr. Mayes has readjusted the gradients in the Nanu-oya to Ambawella district section No. 1, so as to allow that part of the line being worked up by a single engine. Between Nanu-oya station, therefore, and the summit, a distance of upwards of 11¼ miles, the extra engine can be dispensed with.

7. From Ambawella trigonometrical station to the neighbourhood of Pattupola this line has followed an entirely different route from that of Mr. Stoddart, and is about 25 chains shorter; but at the latter point they are again identical. From this point, however, they begin once more to diverge, for reasons which I will explain in the following paragraphs.

8. Mr. Stoddart, in order to avoid a tunnel at his summit which is about 1½ mile beyond Pattupola, adopted rising gradients to reach it; this course, although it avoided the summit tunnel, rendered it necessary for him to make his line as long as possible in order to get down to Haputale Pass. An examination of his plan will shew two detours – firstly, round the Dambaketiya ridge between his 36 miles 40 chains and 38 miles, and, secondly, round a ridge near Oliya trigonometrical station on his 40th mile; this latter bend involves a tunnel and a 5-chain curve; these detours were absolutely necessary for the reason just mentioned. When I took charge of this district I concurred with you that it would be most desirable to avoid these bends, if possible; this, it was evident, could only be accomplished by either finding a summit saddle at a lower elevation or further back towards Pattupola than that adopted by Mr. Stoddart, either of which, if found, would allow the line to begin falling sooner; or failing this, to adopt a tunnel through Mr. Stoddart's summit saddle, should it not prove of excessive length.

9. Careful examination of the country in the neighbourhood of the summit convinced me that Mr. Stoddart had with great skill and judgment selected the lowest saddle in the ridge; this ridge, starting as a spur from the eastern face of Totapolla, and forming the watershed between the head waters of the Kotmale-ganga and the Oliya, gradually turns to the northward, and finally terminates in the precipitous cliffs of Pattupola Peak, overlooking Uva about a-quarter of a mile to the east of Pattupola camp.

10. A study of Mr. Stoddart's plans convinced me that, in order to avoid the detours referred to in paragraph 8 of this report, our formation level must be at least 180 feet below the surface at that gentleman's summit, and a section of the ground having been taken made it clear that, owing to the comparatively gentle slope on each side of the ridge at this point, the tunnel would be between 35 and 40 chains in length; I considered so long a tunnel to be prohibitory, and therefore sought for some other point in the ridge which, though higher in level, might, owing to the ground falling steeper on the sides, allow of a shorter tunnel being obtained. After a few days' search in the forest, I discovered that the next saddle in the ridge in the direction of Pattupolla Peak, about 20 chains to the north of Mr. Stoddart's summit, was of this character; the ground on the Uva side falling almost precipitously, while the descent on the other or Dambagastalawa side was considerably steeper than at Mr. Stoddart's summit. This saddle is about 23 feet higher than Mr. Stoddart's summit, but, owing to its somewhat northerly position, it besides being steeper on each side, as I have explained, also had the advantage of allowing the line to begin falling sooner. From the foregoing paragraphs it will be evident that from Pattupola-ella Mr. Stoddart's line and the present one are entirely different, as different summits are aimed at. A reference to the key plan which accompanies this report will, I trust, make any points clear in this explanation which are not already so.

11. To resume the description of the line from Pattupola-ella. At 4 miles 40·10 chains a rising gradient of 1 in 66 begins and continues to 4 miles 65 chains, where the spot selected for the summit station is reached, through which there is a level gradient 27 chains long. Formation level here is 6,285 feet above Ceylon Railway datum, or 6,215·50 feet above mean sea level at Colombo.

12. Curving to the right with a radius of 5·22 chains, a heavy embankment over a deep ravine occurs at 5 miles 1 chain; the slope of this embankment will interfere with the Pattupolla-ella, and I have therefore estimated for diverting it and carrying the ella across the ravine below the foot of the embankment by a wrought iron trough (see Drawing No. 1.)

13. Running through a succession of spurs and ravines, where in some cases heavy retaining walls are required, the entrance to the summit tunnel is reached at 5 miles 39·50 chains by gradients falling first at 1 in 52·8, from 5 miles 7 chains to 5 miles 23 chains, and then at 1 in 132 to 5 miles 39 chains, where the limiting falling gradient of 1 in 44 commences. To obtain the shortest possible tunnel through the ridge it was necessary to locate the line in the bed of a stream from 5 miles 30 chains to the entrance of the tunnel; and to prevent this stream from finding its way into the cutting and thence running through the tunnel, large side drains in the cutting, falling the reverse way to the gradient, or else large catch-water drains, will be required. For draining this cutting I have allowed in the estimate.

14. The tunnel through the summit is 17¼ chains long, and emerging from it at 5 miles 56·75 chains, the line curving to the right passes along a very steep, indeed almost precipitous hillside, where heavy retaining walls will be frequently necessary as far as 6 miles 5 chains. There is a short tunnel, 1¼ chain long, through a projecting spur at 5 miles 71 chains.

15. At 6 miles 10 chains an embankment, 67 feet high, over a deep ravine occurs, and the line sweeping to the left on a nearly semicircular 5-chain curve (the only very sharp curve on the limiting gradient there is on the district) runs again on almost precipitous sidelong ground as far as 6 miles 30 chains; curving then to the right, crossing a

deep ravine at 6 miles 38 chains, the tunnel through the neck of the Dambaketiya ridge is entered at 6 miles 39·50 chains; the line emerges from this tunnel at 6 miles 54·50 chains, which point is in the neighbourhood of Mr. Stoddart's 37 miles 70 chains. Mr. Stoddart's preliminary line at 36 miles 46 chains crosses our line on the very crest of this ridge, the distance on our line being about 6 miles 46·50 chains.

16. Between Pattupola and this point we have by the adoption of these two tunnels, effected a saving in distance of about 1 mile 30 chains; the two lines now again run parallel to each other along the same hillside, but our line is about 70 feet lower in elevation.

17. The work is then of an average character as far as 6 miles 78 chains, where there is a heavy cutting through a spur on a 5·74 chain curve; this spur is passed on Mr. Stoddart's line at 38 miles 10 chains. Passing this, the line curves to the left and crosses the Ohiya-oya with an 8-feet arch under a heavy embankment at 7 miles 19 chains; the work is then moderate as far as 7 miles 55 chains, when the Demodara-oya is reached. There is a 20 feet girder bridge over a considerable stream at 7 miles 36 chains. This part of the line runs at the foot of Totapola and crosses the drainage from the south-eastern face of that mountain.

18. The Demodara-oya, a large stream draining part of the Horton Plains, is crossed by a 30 feet arched bridge under an embankment 65 feet 6 inches high; this will, I think, be cheaper than a viaduct, and as the fall of the stream is not more than 12° there will be no difficulty in erecting the bridge.

19. At 7 miles 58 chains the line enters a tunnel 3¼ chains long; emerging from this a large stream is crossed at 7 miles 65·70 chains by a 20 feet girder bridge, and curving to the left the line continues as far as Demodara saddle at 8 miles 47·49 chains, the end of the section, with work of a moderately heavy character. This section is therefore, measuring from 2 miles 28 chains, 6 miles 19·49 chains in length.

20. At this point a junction is made with the section which was set out from Idulgashena, as explained in paragraph 2 of this report at 5 miles 32·23 chains on that section. In my description of this section I shall proceed towards Idulgashena, or in the reverse direction to that in which the line was set out.

21. *Second section.*—This having been commenced at Idulgashena with an assumed datum, a height of 43·95 feet should be *added* to all ground, benchmark, and formation levels to reduce them to Ceylon Railway datum, and to make them correspond with the heights on the 1st section; this has been duly noted on the longitudinal section.

22. Commencing at 5 miles 32·23 chains from Idulgashena, the line falls for 0·21 chains at a gradient of 1 in 44, when a piece of level 15·36 chains in length begins, after which the limiting falling gradient again commences.

23. Curving first to the right and then to the left, the line passes through a heavy cutting from 5 miles 23 chains to 5 miles 12 chains, and then on a very heavy embankment about 80-feet in height over a considerable stream crossed by a 16-feet arch as far as 5 miles 2½ chains; a tunnel 5½ chains long begins at 5 miles 0·50 chains. This is succeeded by a heavy embankment, which continues to 4 miles 66 chains; under this are two streams passed by 16 feet and 5 feet culverts respectively; there is another tunnel 6·50 chains in length from 4 miles 59·25 chains to 4 miles 52·75 chains a 100-feet girder bridge over a deep and precipitous ravine at 4 miles 50·60 chains, (see drawing No. 3), and a tunnel 2¼ chains in length beginning at 4 miles 42·50 chains.

24. The work is then of a moderate character as far as 4 miles 17 chains; near this point the line emerges from the forest through which it has run almost continuously from 4 miles 9 chains on the 1st section. A long cutting begins here: this is followed by an embankment with retaining walls. After this the line runs in a generally south-easterly direction as far as 3 miles 45 chains with average work, though, owing to the steep side-long ground, retaining walls are frequently necessary for the embankments.

25. For the next mile the work is exceedingly heavy, the line passing a succession of abrupt patana spurs alternating with deep ravines; tunnels, large retaining walls, and viaducts follow each other rapidly. A tunnel 3¾ chains long begins at 3 miles 45 chains; there is an 80 feet girder bridge at 3 miles 36·77 chains (see drawing No. 4), with heavy retaining walls to the embankment approaching it; a 40 feet girder bridge over a ravine at 3 miles 32·51 chains (see drawing No. 5); another tunnel from 3 miles 31·50 chains to 3 miles 28 chains; very heavy retaining walls from 3 miles 25 chains to 3 miles 21 chains and from 3 miles 13·50 chains to 3 miles 11·50 chains; a tunnel 9 chains long begins at 3 miles 9·75 chains with a heavy rock cutting beyond it; a girder bridge of 100 feet span over a deep ravine occurs at 2 miles 72·55 chains (see drawing No. 5); this followed by a tunnel 8 chains long beginning at 2 miles 69·50 chains; heavy retaining walls at 2 miles 60 chains, and, finally, by another tunnel from 2 miles 51 chains to 2 miles 46·75 chains.

26. The line then continues in the same generally south-easterly direction as hitherto, and passes a succession of heavy cuttings and embankments with, in many cases, large retaining walls to the latter, till it arrives at a spur below the Nugegalakanda trigonometrical station No. 2 at 1 mile 75·25 chains, when curving to the right a tunnel 8 chains in length begins; this is followed by an embankment with a heavy retaining wall, after which another tunnel through a spur of the same hill begins at 1 mile 64·50 chains: this

tunnel is 5 chains long. The line then sweeps round to the left; a considerable stream requiring a 12 feet culvert is crossed at 1 mile 47·09 chains by an embankment 61 feet high, after which as far as 1 mile 14 chains the work is again of a more moderate character.

27. We now are in the neighbourhood of the bend of the line on Mr. Stoddart's plan on his 45th mile, to which allusion has been made in paragraph 8 of this report. To have followed this bend round would have entailed a tunnel at 44½ miles as well as a 5 chain curve; while our line by cutting through the neck of the spur has a tunnel of no greater length, the sharp curve has been avoided, and the line reduced in length by about 40 chains. This saving in distance has the effect of relatively raising our formation level, and of making the present line and Mr. Stoddart's practically identical from this point to Haputale. Our tunnel through this saddle begins at 1 mile 9 chains, and is 4 chains in length; the cuttings by which it is entered and left are both heavy.

28. After this tunnel the works are not heavy, and the line inclining somewhat more to the eastward, and passing the upper part of Idulgashena coffee estate, reaches the Idulgashena Gap above the town of Haldummulla at 0 miles 70 chains.

29. *Third section.*—This also having been commenced at this point with an assumed datum, as explained in paragraph 2 of this report, it is necessary to add 43·95 feet to all the ground, benchmark, and formation heights to reduce them to Ceylon Railway datum, and to make them correspond in altitude to those on section No. 1. This has been conspicuously entered on the longitudinal section.

30. The line curving to the left runs on the level for 15 chains through the site chosen for Idulgashena station: it then falls at 1 in 44. This gradient continues for 15 chains as far as 0 miles 30 chains; when curving first to the left, and then to the right, with a radius of 5·22 chains the line passes under the Batgoda trigonometrical station with heavy cuttings and embankments; the gradient round the sharp curves is eased, a falling gradient of 1 in 52·8 being adopted; this is kept up to 0 miles 49 chains, when the limiting gradient again begins. The use of sharp curves has effected considerable saving here, by avoiding a tunnel at 0 miles 41 chains which would otherwise have been required.

31. After this the line runs in a generally easterly direction along very steep sidelong patana hills; passing Batgoda Gap which overlooks the low-country below Haldummulla, at about 39 feet below the level of the gap at 0 miles 68 chains.

32. The earthworks on this part of the line are not heavy, but, owing to the very steep slope of the hills, heavy retaining walls are necessary, particularly from 0 miles 65·50 chains to 67·50 chains, and from 0 miles 74·50 chains to 1 mile 3·50 chains; the ground then is almost precipitous as far as 1 mile 50 chains. A cutting 14 chains in length begins at 1 mile 47 chains, and curving first to the right and then to the left the line emerging from it passes by an embankment 62 feet high over a stream requiring an 8 feet culvert at 1 mile 65·41 chains, after which the line passes through belts of patana and forest alternately as far as 2 miles 77 chains, with a succession of heavy cuttings and embankments. The sidelong fall of the ground here however becomes slightly easier, and retaining walls are less frequently required.

33. At 2 mile 77·70 chains another considerable stream is passed under an embankment 64 feet high by an 8 feet culvert, and passing through a heavy cutting at 3 miles 6 chains, and over an embankment at 3 miles 13 chains, the line passes about 2 chains below the temporary bungalow of Upper Blackwood Estate at 3 miles 22 chains; the line here is about 24 chains below the Galulaha trigonometrical station on the crest of the ridge.

34. The earthworks are then moderate, though in some cases retaining walls are required as far as 3 miles 43 chains; from which point the line is almost continuously in cutting up to 3 miles 63·75 chains; the whole of the material from this cutting will be required for the ravine, 86 feet deep, which is crossed at 3 miles 65·25 chains; the drainage area here is not extensive and a 5 feet culvert will pass all the water.

35. Work of a more moderate character then follows up to 4 miles 30 chains, though heavy retaining walls are required from 3 miles 71·50 chains to 75·50 chains, and again from 4 miles 7·50 chains to 4 miles 12·50 chains.

36. The site selected for the Haputale Pass station is reached at 4 miles 30 chains, and the falling gradient of 1 in 44, which began at 0 miles 49 chains, here ceases. Through the station ground the line is level, and passing below the Kadduwatta trigonometrical station at 4 miles 53 chains, and crossing the Government road on the level at the top of the Pass at 4 miles 68½ chains, the line reaches 4 miles 70 chains, the end of the district. The line is here straight from 4 miles 27 chains to 4 miles 65·75 chains, when a curve to the left of 9·55 chains' radius begins.

37. The total length of the district is thus:—

Section No. 1, Ambawella to Demodara	...	6 miles 19·49 chains.
Section No. 2, Demodara to Idulgashena	..	5 miles 32·23 chains.
Section No. 3, Idulgashena to Haputale	...	4 miles 70·00 chains.
		16 miles 41·72 chains.

RAILWAY EXTENSION.

FURTHER PAPERS.

NANU-OYA TO HAPUTALE.

Curves.

38. The following is an abstract of the sharpest curves we have upon this district :—

1	curve	of	5 chains	radius,	in	length	12·125	chains.
3	curves	of	5·22 „	„	„	„	24·50	„
4	„	„	5·74 „	„	„	„	34·75	„
3	„	„	6·04 „	„	„	„	29·00	„
63	„	„	6·37 „	„	„	„	393·595	„

Appendix B

A complete list of all straights and curves will be found in the appendix, on examination of which it will be seen that 6 miles 28·44 chains, or 38·47 per cent. of the district, is straight, while 10 miles 13·28 chains, or 61·53 per cent., is upon curves of eighteen different radii.

Tunnels.

See Sessional Paper II of 1874, pages 23 and 25

39. There are upon the district 16 tunnels aggregating in length 1 mile 19·25 chains or 2183·50 yards; this at first sight will, I fear, seem a very excessive length, but I wish to point out that Colonel Fyers and Mr. Stoddart both anticipated that about 40 chains of tunnelling would be required in the Ohiya Valley. An examination of Mr. Stoddart's section leads me to think, that between the summit and Idulgashéna, if we take 50 feet of cutting (a rather excessive depth, if rock be anticipated) as being the most economical point at which to begin a tunnel, and if we assume that tunnels would be required at the three cliffs on the 41st mile of his section this anticipated length of tunnel would be increased to 49 chains; of the remaining 50 chains, we encountered the summit tunnel, that from 5 miles 69·75 chains to 5 miles 71·50 chains on the first section, and that through the Dambaketiya ridge, aggregating in length 34 chains, purposely to effect a saving in distance. The remaining excess of 16 chains of tunnelling must, I think, be partly accounted for by the generally somewhat flatter curves adopted by us, a slight difference in the radius of which, makes on steep ground a very appreciable difference in the section, as well as by the fact that, in order to avoid viaducts, excessively heavy retaining walls, and the greatly increased length of culverts which would otherwise be necessary, we have purposely graded the line through the very steep sideling ground met with in the Ohiya Valley, with an excess of cutting rather than of bank. This policy I trust you will agree with me in thinking to be much more economical in maintenance while not greatly more expensive in first cost.

Iron Girder Bridges.

See Sessional Paper VI of 1877, para. 30, page 14

40. These, I am glad to say, are not numerous on this district. They are of the same character in general design as those in the Great Western District.

Earthworks.

41. This item is, I regret to say, very heavy.

The embankments are 18 feet wide at the top, and when all earth have slopes of 1½ to 1; in all other cases the slopes are 1¼ to 1. The cuttings when all rock have a base of 16 feet with slopes of ¼ to 1; in all other cases the base is 20 feet wide, and the slopes are varied in accordance with the supposed nature of the material; when all earth, they are 1 to 1. The earthwork quantities have been calculated from the section, and varying percentages added to cover the increase caused by sideling ground. All rock has been estimated as increasing 50 per cent. in volume when taken out and placed in embankments, on which estimate the distribution of earthwork has been arranged.

42. In the neighbourhood of the summit the rock seems generally to be quartz; in other parts of the line gneiss rock is usually met with. Near the Demodara trigonometrical station in the bed of the Demodara-oya, there is an out-crop of white crystalline limestone, a specimen of which is forwarded with this report. I saw boulders of this same limestone in the Demodara-oya near our line crossing, and am therefore disposed to think that there is another out-crop higher up.

Retaining Walls.

43. This item is also a very large one on this district. Notwithstanding my objection to heavy walls, I have in some cases been obliged to adopt them of 50 feet in height. Walls brought up to formation level are calculated as being three feet thick at the top with a batter of 1 in 4 on the face, the back being vertical. Surcharged walls are 4 feet thick at the top with the same batter, the back being in this case also vertical.

Where these walls exceed 16 feet in height, I have estimated for all the contents below that level being built in mortar, while from 16 feet to the top of the wall dry rubble has been taken as sufficient.

Culverts.

44. The aggregate linear feet of waterway provided, including all culverts of and under 16 feet span, is 671 feet or 40·6 feet per mile. This is less than I allowed on the Great Western District; but from the appearance of the streams I do not think they are liable to such heavy floods as in Dimbula; besides which the line being for a considerable distance close to the summit of the hills, the drainage area is much smaller.

Stations.

45. *Pattupola or Summit station* (Drawing No. 6). This is intended only as a passing station and one where the additional engine can be taken off trains on their arrival from Haputale and attached to those going down the incline; as I do not anticipate any traffic here, the arrangements are very simple; accommodation for four engines, a turntable, watering arrangements, houses for drivers and firemen, and for the station-master, and a short siding being all that is provided.

46. *Idulgashena* (Drawing No. 7).—This station is similar in type to Wattagoda and Ambawella, and needs, I think, no further remark.

47. *Haputale* (Drawing No. 8).—This station is similar in type to Nanu-oya, but has somewhat greater accommodation. A shed for six engines is provided, with a repairing shop at the end for small repairs, 50 feet by 30 feet; drivers and guards' houses are on a more extensive scale; additional siding accomodation is provided, as well as a Post-Office and Telegraph-room in the station building.

Permanent Way.

48. This has been estimated for steel rails throughout, weighing 72 lbs. per yard. I have assumed that guard rails will be necessary only on curves of and under 6·04 chains radius; such curves aggregate in length about 1 12th of the district.

Estimate.

49. The following is an abstract of my estimate for the district under consideration, based upon the prices recommended by the Kandy Committee in their report dated 25th July, 1876. Full details of this estimate will be found in the appendix. Appendix C.

Ambawella to Haputale District.

Length of line, 16 miles 11·72 chains 16·5215 miles; say 16·52 miles.

Way and Works.

Description.	Quantities. cub. yds	Rate. Rs.	Amount. Rs.	Cts.
Earthwork.				
Rock cuttings (Appendix C. 1.) ...	455,721	2·00	911,442	0
Earth cuttings do. ...	390,549	0·50	195,274	50
Side cuttings do. ...	89,546	1·00	89,546	0
Lead do. ...	—	...	11,474	87
Benching do. ...	33,000	0·25	8,256	0
Foundations (included in bridges)				
Tunnels (Appendix C. 2.) ...	—	—	910,690	0
Retaining walls (Appendix C. 3.) ...	—	—	292,602	8
Girder bridges (Appendix C. 4.) ...	—	—	117,627	8
Arched culverts (Appendix C. 5.)	—	—	142,501	1
Flat-topped small culverts (Appendix C. 6.) ...	—	—	79,450	12
Demodara-oya bridge (Appendix C. 7.) ...	—	—	35,856	67
Permanent way at Rs. 45,816·50 per mile (Appendix C. 8.) ...	—	—	756,957	30
Miscellaneous (Appendix C. 9.) ...	—	—	10,500	0
Cart road at Rs. 5,000 per mile ...	—	—	82,600	0
Fencing 8¼ miles at Rs. 3,000 per mile ...	—	—	24,750	0
			3,672,521	93
Add for Contingencies ...	—	—	367,252	7
Total for way and works ...	—	—	Rs. 4,039,774	0

Or, per mile...Rs. 244,538·31.

Land, Stations, Supervision, Rolling Stock, &c.

Land (at 10 acres per mile)				
20 acres of coffee and cinchona at Rs. 1,000 ...	—	—	20,000	0
Compensation for house property at Haputale pass ...	—	—	10,000	0
145 acres of Crown forest and patana ...	—	—	Nominal	
Pattupola Station ...	—	—	15,000	0
Idulgashena Station ...	—	—	30,000	0
Haputale station ...	—	—	80,000	0
Telegraph at per mile Rs. 500 ...	—	—	8,260	0
Egineering supervision ...	—	—	140,000	0
Rolling stock as per Appendix D. ...	—	—	343,850	0
			647,110	0
Add for Contingencies ...	—	—	64,711	0
Total	—	—	Rs. 711,821	0

Or, per mile Rs. 43,088·43.

Estimate for Way and Works ...	—	—	4,039,774	0
Estimate, Land, Stations, &c., &c. ...	—	—	711,821	0
Grand Total...Rs.	—	—	4,751,595	0

Or, per mile, Rs. 287,626·81.

RAILWAY EXTENSION.

FURTHER PAPERS.

NANU-OYA TO HAPUTALE.

50. In the foregoing estimate it will be observed, as I have before pointed out, that the items of earthwork, tunnels, and retaining walls are exceptionally heavy, while that of girder bridges is lighter than the average on other districts on which I have reported. The item of culverts does not shew the decrease that might have been expected from the less waterway provided; this, owing to the fact that in consequence of the heavier earthwork the increased length of culverts has more than counterbalanced it. It will be observed that I have provided fencing for one-half the length of the line only; this I have felt justified in doing in consequence of the absence of population and cultivation for nearly the whole length of the district. I have also not placed any price against the item of Crown land through which the line passes.

51. The following are the comparative distances between the commencement of the district and Haputale Pass by the present line and by Mr. Stoddart's preliminary line:—

	Present line			Mr. Stoddart's line.	
	Miles.	Chains.		Miles.	Chains.
Commencement of district ...	2	28	...	31	67
Cart road crossing at Haputale Pass	18	68	...	50	51
	16	40	...	18	64

The present line is thus 2 miles 24 chains shorter than the preliminary.

52. Now, if we assume (as is really the case) that 2 miles of this reduction in distance has been effected by the adoption of the 34 chains of tunnelling at the summit, (see paragraph 39 of this report), the saving made in first cost, leaving out of the question that in working expenses, will be at once apparent. The average cost of tunnels is, (including the permanent way through them), approximately 775,000 rupees per mile, while that of the line in the open I do not think can be taken at less than 220,000 rupees per mile; this for 2 miles becomes 440,000 rupees. Now, 34 chains of tunnelling at 775,000 rupees per mile amounts to 329,375 rupees, and 34 chains of line in the open costs (at 220,000 rupees per mile) 93,500 rupees: the difference therefore between these figures, or 235,875 rupees, shews the excess in cost incurred to dispense with 2 miles of line, to have constructed which we should have had to spend 440,000 rupees. A saving, therefore, in first costs of the difference between these last amounts, or 204,125 rupees, has been made by thus shortening the line.

Appendices E & F

53. I have appended to this report a list of gradients and a table of the distribution of earthwork, made in a similar form to that adopted by the Consulting Engineer in the specification for the Matale extension.

54. I cannot close this report without expressing my acknowledgments to the Assistant Engineers on this district (Messrs. Albrecht, Stafford Frewin, Olivei, and Pancer) for the able and willing assistance they have given me in the work.

I have, &c.,
F. J. WARING, A.I.C.E.,
Senior Assistant Engineer.

APPENDIX.

A.

AMBAWELLA TO HAPUTALE DISTRICT.

List of Plans, Drawings, &c., accompanying Report.

Plans:—
Ambawella to Demodara, 6 sheets.
Demodara to Idulgashena, 5 sheets.
Idulgashena to Haputale, 5 sheets.
Longitudinal Section:—In 5 rolls.
Cross Sections:—
Ambawella to Demodara, 17 sheets in one book.
Demodara to Idulgashena, 16 „ „
Idulgashena to Haputale, 14 „ „
Cross Sections of Streams:—9 sheets in one book.
Bridges:—Drawings Nos. 1, 2, 3, 4, and 5.
Station Plans:—Drawings Nos 6, 7, and 8.
Key Plan of Line shewing Topography.

B.

AMBAWELLA TO HAPUTALE.—*List of Straights and Curves.*

Distance. From		Distance. To		Radius of Curve.	Direction of Curve.	Length of Curve.	Length of Straight.
Section No. 1.—Ambawella to Demodara							
Miles.	Chains	Miles.	Chs.	Chs.		Chains.	Chains.
2	28	2	31	6·37	R	3	
	31		32·50				1·50
	32·50		40	6·37	L	7·50	
	40		42·25				2·25
	42·25		47·25	6·37	R	5	
	47·25		49·25				2
	49·25		53	6·37	L	3·75	
	53		58	5·74	L	5	
	58		60·50				2·50
	60·50		68	9·55	R	7·50	
	68		73				5
	73		77	8·19	L	4	
	77		79				2
	79	3	9	6·37	R	10	
3	9		11				2
	11		14	11·46	L	3	
	14		27				13
	27		31	7·17	R	4	
	31		32·50				1·50
	32·50		38·50	6·37	L	6	
	38·50		41				2·50
	41		44·50	11·46	R	3·50	
	44·50		59				14·50
	59		64	19·10	R	5	
	64	4	12				28
4	12		16	9·55	L	4	
	16		19				3
	19		23	14·33	R	4	
	23		31				8
	31		36	14·33	L	5	
	36		38				2
	38		52	9·55	R	14	
	52		55				3
	55		65	7·17	L	10	
	65		70				5
	70		75	7·17	L	5	
	75		76·75				1·75
	76·75	5	5	5·22	R	8·25	
5	5		7·50				2·50
	7·50		10·50	7·17	L	3	
	10·50		13				2·50
	13		17·50	6·37	L	4·50	
	17·50		20				2·50
	20		24	6·37	R	4	
	24		27				3
	27		34·50	8·19	L	7·50	
	34·50		50·75				16·25
	50·75		59·25	6·37	R	8·50	
	59·25		61·25				2
	61·25		65	5·75	L	3·75	
	65		66·75				1·75
	66·75		72·50	6·37	R	5·75	
	72·50		74				1·50
	74		76·50	6·37	L	2·50	
	76·50		78·75				2·25
	78·75	6	4·75	6·37	R	6	
6	4·75		6·75				2·00
	6·75		18·875	5	L	12·125	
	18·875		27				8·125
	27		36·75	6·04	R	9·75	
	36·75		57·50				20·75
	57·50		65	10·42	R	7·50	
	65		66·50				1·50
	66·50		72	6·37	L	5·50	
	72		74				2
	74	7	10	5·74	R	16	
7	10		11·50				1·50
	11·50		25	6·04	L	13·50	
	25		27				2
	27		31	7·17	R	4	
	31		33				2
	33		42·50	6·37	L	9·50	
	42·50		43·75				1·25
	43·75		49·50	6·04	R	5·75	
	49·50		51·25				1·75
Miles.	Chains.	Miles.	Chs.	Chs			
7	51·25	7	59	6·37	L	7·75	
	59		61				2·00
	61		63·50	7·17	R	2·50	
	63·50		65				1·50
	65		75	6·37	L	10	
	75		77				2
	77	8	3·625	5·19	R	6·625	
	3·625		12				8·375
	12		18	14·33	L	6	
	18		21	6·37	L	3	
	21		22·75				1·75
	22·75		32·50	6·37	R	9·75	
	32·50		35·25				2·75
	35·25		38	6·37	L	2·75	
	38		42·25	5·74	L	4·25	
	42·25		44				1·75
8	44		47·49	6·37	R	3·49	
Section No. 2.—Demodara to Idulgashena.							
5	32·23	5	30·005				2·225
	30·005		26	6·37	L	4·005	
	26		24·50				1·50
	24·50		15	6·37	R	9·50	
	15		13·25				1·75
	13·25		5·25	6·37	L	8	
	5·25		3				2·25
	3	4	76	6·37	R	7	
4	76		74·50				1·50
	74·50		69·50	6·37	L	5	
	69·50		68				1·50
	68		59·50	6·37	R	8·50	
	59·50		58				1·50
	58		47	6·37	L	11	
	47		45·50				1·50
	45·50		39·50	6·37	R	6	
	39·50		38				1·50
	38		35·50	28·65	L	2·50	
	35·50		34				1·50
	34		31	19·10	R	3	
	31		29				2
	29		16·25	6·37	L	12·75	
	16·25		14·75				1·50
	14·75		4·25	6·37	R	10·50	
	4·25	3	78·50				5·75
3	78·50		74·50	14·33	R	4	
	74·50		73				1·50
	73		70	19·10	L	3	
	70		62·50				7·50
	62·50		58	6·37	L	4·50	
	58		56				2
	56		50	7·17	R	6	
	50		46				4
	46		42·50	9·55	R	3·50	
	42·50		41				1·50
	41		31·50	5·74	L	9·50	
	31·50		30				1·50
	30		27	19·10	R	3	
	27		22·25				4·75
	22·25		12·50	6·37	R	9·75	
	12·50		11				1·50
	11		6	6·37	L	5	
	6		3				3
	3	2	79	9·55	R	4	
2	79		76				3
	76		67·75	6·37	L	8·25	
	67·75		65·50				2·25
	65·50		58·50	6·37	R	7	
	58·50		56·50				2
	56·50		49·50	6·37	L	7	
	49·50		47·50				2
	47·50		44	8·19	R	3	
	44		42·25				1·75
	42·25		38·75	6·37	L	3·50	
	38·75		36·75				2

LIST of Straights and Curves.—*continued.*

Distance. From		Distance. To		Radius of Curve.	Direction of Curve.	Length of Curve.	Length of Straight.
Miles.	Chains	Miles	Chs.	Chains.		Chains.	Chains.
2	36·75	2	25 75	6·37	R	11	
	25·75		24 50				1·25
	24·50		19·50	6·37	L	5	
	19·50		18				1·50
	18		15·75	7 17	R	2 25	
	15 75		14 485				1·265
	14 485		9·25	7 17	L	5 235	
	9·25		7·25				2
	7 25	1	77	8·19	R	10 25	
1	77		74				3
	74		58 25	8 82	R	15·75	
	58 25		56 75				1 50
	56 75		41 75	6 37	L	15	
	41·75		39				2 75
	39		25 75	11 46	L	13 25	
	25·75		22 25				3 50
	22·25		19	7 17	R	3·25	
	19		14 50				4 50
	14 50		7·75	7 17	R	6 75	
	7·75		3				4 75
	3	0	79	11·46	R	4	
0	79		68 25				10·75
	68·25		64	8·19	L	4 25	
	64		57·25				6·75
	57 25		53	9·55	L	4 25	
	53		51				2
	51		47	8·19	R	4	
	47		44·50				2·50
	44·50		41	8 19	R	3 50	
	41		39				2
	39		35	7 17	L	4	
	35		29·50	14 33	L	5·50	
	29·50		28				1·50
	28		20·25	11·46	R	7 75	
	20·25		17				3·25
	17		11	7 17	L	6	
	11		9				2
	9		5	7·17	R	4	
	5		0				5
Section No. 3 — Idulgashera to Haputale.							
0	0	0	2 35				2·35
	2 35		7 80	6·37	L	5·45	
	7·80		15				7·20
	15		20	6·37	R	5	
	20		23				3
	23		26·50	6·37	L	3 50	
	26·50		30·75				4 25
	30·75		38	5 22	L	7·25	
	38		39·50				1 50
	39 50		48·50	5·22	R	9	
	48·50		50				1·50
	50		53	10 75	L	3	
	53		54·50				1·50
	54 50		59	10·75	R	4·50	
	59		60·75				1 75
	60 75		68 75	10·75	L	8	
	68 75		70·75				2
	70·75		75 50	10·11	R	4 75	
	75 50	1	5 75				10·25

Distance From		Distance To		Radius of Curve.	Direction of Curve.	Length of Curve.	Length of Straight.
Miles.	Chains.	Miles	Chs.	Chains		Chains.	Chains.
1	5·75	1	9	6·37	L	3 25	
	9		10·55				1·55
	10 55		16·25	6·37	R	5·70	
	16·25		19				2·75
	19		25 50	6·37	L	6·50	
	25 50		27				1 50
	27		28 95	8 19	R	1·95	
	28 95		33 50				4·55
	33 50		36 75	6·37	R	3·25	
	36·75		38 55				1·80
	38·55		42	6·37	L	3 45	
	42		48				6
	48		53	14·33	R	5	
	53		55 75				2 75
	55·75		62	6 37	R	6·25	
	62		64				2
	64		70	6·37	L	6	
	70	2	2·50				12·50
2	2·50		7	9·55	L	4·50	
	7		9				2
	9		18	9·55	R	9	
	18		21·75				3 75
	21·75		26·50	6 37	L	4·75	
	26 50		28				1 50
	28		33 50	6 37	R	5·50	
	33 50		35·50				2
	35 50		40	6 37	L	4 50	
	40		44 50				4·50
	44·50		47·50	6 37	R	3	
	47·50		49				1 50
	49		54 50	6 37	L	5·50	
	54 50		56				1 50
	56		60	6·37	R	4	
	60		68				8
	68		74 25	6 37	R	6·25	
	74·25		76				1 75
	76	3	5·25	6 37	L	9·25	
3	5·25		16 75				11·50
	16 75		24 50	6·37	R	7 75	
	24·50		26				1 50
	26		30·25	6·37	L	4·25	
	30·25		37 75	12 28	L	7 50	
	37·75		40 50				2·75
	40 50		47 75	6 37	R	7·25	
	47·75		50 50				2 75
	50·50		54	6 37	L	3 50	
	54		57				3
	57		61	9 55	R	4	
	61		62 75				1·75
	62 75		68 50	9·55	L	5·75	
	68 50	4	10				21·50
4	10		14	14·33	L	4	
	14		15 50				1·50
	15·50		18 75	6 37	R	3·25	
	18·75		20·25				1 50
	20·25		27	9·55	L	6 75	
	27		65·75				38 75
	65·75		70	9 55	L	4·25	

Abstract.

	Miles.	Chains. Per cent.
Total length of District ...	16 ..	41·72
Total length of Straights .	6 ..	28·44 = 38·47
" Curves ...	10 ...	13·28 = 61·53

1 curve of 5·00 chains' radius in length 12·125
3 " 5·22 " 24 50
4 " 5·74 " 34·75
3 " 6·04 " 29·00
63 " 6·37 " 393·595
1 " 6·75 " 8·75
14 " 7·17 " 65·985

9 curves of 8·19 chains' radius in length 45·575
1 " 8·82 " 15 75
12 " 9·55 " 71·50
1 " 10·11 " 4·75
1 " 10·42 " 7·50
3 " 10·75 " 75 50
5 " 11·46 " 31·50
1 " 12·28 " 7·50
7 " 14·33 " 33·50
4 " 19·10 " 14·00
1 " 28·65 " 2·50

C. 1.

AMBAWELLA TO HAPUTALE DISTRICT.—*Earthwork Estimate.*

Mileage.	Rock cuttings. c. yds.	Earth cuttings. c. yds.	Side cuttings. c. yds.	Embankments. c. yds.
Ambawella to Demodara.—Section No. 1.				
2 miles 28 chains to 4 miles 34 chains ...	39,921 ...	25,679 .	10,366 ...	78,832
4 „ 34 „ to 5 „ 69¾ „ ...	39,144 ...	10,676 ...	2,028 ...	50,300
5 „ 69¾ „ to 7 „ 39¾ „ ...	62,129 .	710 ...	28,648 ...	119,137
7 „ 39¾ „ to 8 „ 47½ „ ..	45,027 ...	— .	11,366 ...	70,327
Demodara to Idulgashena.—Section No. 2.				
5 miles 32·23 chains to 3 miles 78 chains ...	68,322 ..	31,301 ...	6,280 ...	114,975
3 „ 78 „ to 2 „ 54⅓ „ ...	43,382 ...	14,340	268 ...	45,151
2 „ 54⅓ „ to 1 „ 9 „ .	80,214 ..	18,979 ...	— ...	107,072
1 „ 5 „ to 0 „ 0 „ ...	26,511 ...	23,430 ...	— ..	27,463
Idulgashena to Haputale.—Section No. 3.				
0 miles 0 chains to 1 mile 13½ chains ...	21,707 ..	23,775 .	— ...	27,249
1 „ 13½ „ to 2 „ 33¾ „ ...	15,238 ...	48,126 ...	21,068 ...	88,517
2 „ 33¾ „ to 3 „ 48 „ .	5,504 ...	101,084 ...	9,530 ...	118,037
3 „ 48 „ to 4 „ 70 „ ...	8,622 ...	92,449 ..	— ...	92,699
Totals .	455,721	390,549	89,554	939,759

Estimate.

	Rs.	Cts.
455,721 cubic yards of Rock-cutting at Rs. 2·00 per cubic yard ...	911,442	00
390,549 „ of Earth-cutting at „ 0·50 „ ...	195,274	50
89,554 „ of Side-cutting at „ 1·00 „ .	89,554	00
Lead of 10 chains on 22,786 cubic yards at Rs. 0·25 per cubic yard	5,696	50
„ 15 „ on 23,409 „ at „ 0·37½ „	8,778	37
Benching ... 33,000 „ at „ 0·25 „	8,250	00
Total ... Rs.	1,218,995	37

C. 2.

AMBAWELLA TO HAPUTALE DISTRICT. TUNNELS.—*Quantities and Estimate.*

From	To	Length.	Length	Remarks.	Description	Quantities. c. yds	Rate per c. yd. Rs.	Amount. Rs	Total. Rs.
					Section No. 1.—Ambawella to Demodara.				
M. C	M. C.	chains.	Yards.		yards.				
5 39·50	5. 56·75	17·25	379·50	3 chains lined	Excavat'on in 66 of lined tunnel at 40 c. yds. per yd run	2640 0	10	26400	
					„ 313 50 unlined „ 31 „	9718 50	...	97185	
					Masonry 66 lined „ 10 „	660 0	30	19800	143,385
5 69·75	5 71·50	1 75	38 50	¾ chain lined	Excavat on in 16 50 lined „ 40 „	660 0	10	6600	
					„ 22 00 unlined „ 31 „	682 0	..	6820	
					Masonry 16 50 lined „ 10 „	165 0	30	4950	18,370
6 39 50	6 54 50	15·00	330 00	3 chains lined	Excavation in 66 lined „ 40 „	2640 0	10	26400	
					„ 264 unlined „ 31 „	8184 0	..	81840	
					Masonry 66 lined „ 10 „	660 0	30	19800	128,040
7 58·00	7 61 50	3 50	77·00	1½ chain lined	Excavation in 33 lined „ 40 „	1320 0	10 0	13200	
					„ 44 unlined „ 31 „	1364 0	...	13640	
					Masonry 33 lined „ 10 „	330 0	30. 0	9900	36,740
					Section No 2.—Demodara to Idulgashena.				
					yards.				
5 0·50	4 75·00	5·50	121·00	1½ chain lined	Excavation in 33 lined tunnel at 40 c. yd. per yd. run	1320 0	10 0	13200	
					„ 88 unlined „ 31 „	2728 0		27280	
					Masonry 30 lined „ 10 „	330 0	30 0	9900	50,380
4 59·25	4 52·75	6·50	143·00	2 chains lined	Excavation in 44 lined „ 40 „	1760 0	10 0	17600	
					„ 99 unlined „ 31 „	3069 0	...	30690	
					Masonry 44 lined „ 10 „	440 0	30 0	13200	61,490

TUNNELS.—*Quantities and Estimate—continued.*

From.		To.		Length.	Length	Remarks.	Description.					Quantities.	Rate per yd.	Amount	Total.
M.	C.	M.	C.	chains.	Yards.			Yards				c. yds.	Rs.	Rs.	Rs.
4	44·50	4	42·25	2·25	49	1 chain lined	Excavation in	22 of lined tunnel	at	40 c. yds.	per yd. run	880 0	10·0	8800	
							,,	27 50 unlined	,,	31	,,	852 50	...	8525	
							Masonry	22 lined	,,	10	,,	220 0	30 0	6600	23,925
3	45	3	41·25	3·75	82·50	1½ chain lined	Excavation in	33 lined	,,	40	,,	1320 0	10 0	13200	
							,,	49 50 unlined	,,	31	,,	1534 50	...	15345	
							Masonry	33 lined	,,	10	,,	330 0	30 0	9900	38,445
3	31·50	3	28	3 50	77	1½ chain lined	Excavation in	33 lined	,,	40	,,	1320 0	10 0	13200	
							,,	44 unlined	,,	31	,,	1364 0		13640	
							Masonry	33 lined	,,	10	,,	330 0	30 0	9900	36,740
3	18	3	15 50	2·50	55	1 chain lined	Excavation in	22 lined	,,	40	,,	880 0	10	8800	
							,,	33 unlined	,,	31	,,	1023 0	...	10230	
							Masonry	22 lined	,,	10	,,	220 0	30	6600	25,630
3	9 75	1	0 75	9	198	2 chains lined	Excavation in	44 lined	,,	40	,,	1760 0	10	17600	
							,,	154 unlined	,,	31	,,	4774 0	.	47740	
							Masonry	44 lined	,,	10	,,	440 0	30	13200	78,540
2	69 50	2	61 50	8	176	2 chains lined	Excavation in	44 lined	,,	40	,,	1760 0	10	17600	
							,,	132 unlined	,,	31	,,	4092 0	...	40920	
							Masonry	44 lined	,,	10	,,	440 0	30	13200	71,720
2	51	2	46 75	4 25	93 50	1½ chain lined	Excavation in	33 lined	,,	40	,,	1320 0	10	13200	
							,,	60 50 unlined	,,	31	,,	1875 50	...	18755	
							Masonry	33 lined	,,	10	,,	330 0	30	9900	41,855
1	75 25	1	67 75	7 50	165	2 chains lined	Excavation in	44 lined	,,	40	,,	1760 0	10	17600	
							,,	121 unlined	,,	31	,,	3751 0	...	37510	
							Masonry	44 lined	,,	10	,,	440 0	30	13200	68,310
1	64·50	1	59 50	5	110	1½ chain lined	Excavation in	33 lined	,,	40	,,	1320 0	10	13200	
							,,	77 unlined	,,	31	,,	2387 0	.	23870	
							Masonry	33 lined	,,	10	,,	330 0	30	9900	46,970
1	9	1	5	4	88	1½ chain lined	Excavation in	33 lined	,,	40	,,	1320 0	10	13200	
							,,	55 unlined	,,	31	,,	1705 0		17050	
							Masonry	33 lined	,,	10	,,	330 0	30	9900	40,150
Total lengths				99·25	2183 50									Total Rs	910,390

C. 3.

AMBAWELLA TO HAPUTALE DISTRICT.—*Retaining Walls.*

From.		To		Length	Average Height.	Contents Dry Walling.	Contents in Mortar.	REMARKS.
		Section		*No. 1.—Ambawella to Demodara.*				
m.	chs.	m.	chs	yards.	feet.	c. yards	c yards	
2	31·50	2	32·50	22	10	103·84	—	—
4	77·50	4	79	33	20	351 78	124 41	Surcharged wall.
5	7·75	5	8 25	41	10	51·92	—	—
	10·50		12 50	44	30	390·72	616 60	—
	57 50		58 50	22	13	146·96	—	—
	58 50		61 50	66	8	293·04	—	Surcharged wall.
	62·50		64·50	44	25	469·04	396	do.
	64·50		65·50	22	12	132	—	—
	67		67 50	11	15	89·37	—	—
	68 25		68 75	11	15	89·37	—	—
	73		74	22	6	44 30	50	Additional at mouth of culvert.
	77		77·50	11	4	22	—	Surcharged wall.
	3 50	6	4	11	10	51·92	—	—
	4		5	22	15	178 74	30	Additional at mouth of culvert.
	11		12	22	30	234·52	337·27	Surcharged wall.
	12		13	22	25	234·52	198	do.
	13		13·50	11	8	48 44	—	do.
	22 50		23	11	12	66	—	—

Retaining Walls – continued.

From		To		Length.	Average height.		Contents Dry Walling.	Contents in Mortar.	Remarks.
Miles.	Chs.	Miles.	Chs.	Yards.	Ft.	in.			
6	23·00	6	25·00	44	32	0	390·72	704·00 50·00	At mouth of culvert, additional.
	26·50		27·00	11	7	0	33·00	—	—
	27·00		29·00	44	20	0	390·72	146·52	—
	29·00		29·50	11	10	0	51·92	—	—
	36·00		38·75	60·5	32	0	634·93	1,075·08	Surcharged wall
	65·50		66·50	22	8	0	96·88	—	do.
	72·50		73·50	22	20	0	234·52	82·94	do.
	15·50	7	17·50	44	15	0	435·60	50·00	Additional at mouth of culvert. Surcharged wall.
	17·50		18·50	22	25	0	234·52	198·00	Surcharged wall.
	18·50		19·50	22	15	0	217·80	—	do.
	48·00		49·00	22	10	0	103·84	—	—
		Section No. 2 – Demodara to Idulgashena.							
5	26·50	5	25·50	22	16	0	195·36	—	—
	25·50		24·00	33	25	0	293·04	268·12	—
	24·00		23·50	11	13	0	146·96	—	—
	5·50		4·50	22	10	0	10·84	—	—
	4·50		3·50	22	25	0	195·36	178·75 30·00	Additional at mouth of culvert.
	3·50		2·50	22	10	0	103·84	—	—
4	70·50	4	69·50	22	16	0	234·52		Surcharged wall.
	67·50		66·50	22	32	0	234·52	390·94	do.
	61·00		60·50	11	10	0	51·92	30·00	Additional at mouth of culvert
	49·50		48·50	22	20	0	195·36	73·26	—
	39·00		38·00	22	5	0	56·54	30·00	Additional at mouth of culvert Surcharged wall.
	35·50		32·50	66	18	0	586·08	20·00 105·60	Additional at mouth of culvert.
	1·50		1·00	11	15	0	108·90	50·00	Additional at mouth of culvert Surcharged wall
	1·00	3	79·50	33	25	0	351·78	297·09	Surcharged wall.
3	79·50		78·50	22	10	0	128·32	—	do.
	70·00		69·50	11	10	0	64·16	—	do.
	67·50		66·50	22	10	0	103·84	—	—
	63·00		59·50	77	20	0	684·76	256·41	—
	50·50		49·00	33	15	0	268·11	—	—
	49·00		47·50	33	30	0	293·04	462·00	—
	47·50		46·50	22	18	0	195·36	35·20	—
	40·50		39·00	33	10	0	192·49	—	Surcharged wall.
	39·00		38·50	11	20	0	107·26	41·47	do.
	38·50		37·50	22	30	0	234·52	337·27	do.
	25·00		24·00	22	15	0	178·74	—	
	24·00		23·25	16·50	40	0	147·57	439·89	-
	23·25		22·25	22	56	0	195·36	1173·26	—
	22·25		21·75	11	10	0	51·92	—	—
	13·50		13·00	11	20	0	97·68	36·63	—
	13·00		12·00	22	40	0	195·36	586·52	—
	12·00		11·50	11	20	0	97·68	36·63 100·00	Additional at mouth of culvert.
2	60·00	2	58·50	33	40	0	293·04	879·78	—
	54·00		52·00	44	15	0	357·48	200·00	Additional at mouth of culvert.
	44·50		44·00	22	5	0	44·31	—	—
	43·50		41·50	44	25	0	390·72	357·50 100·00	Additional at mouth of culvert.
	41·50		40·50	22	5	0	44·31		—
	36·50		35·00	33	10	0	155·76	—	—
	25·50		24·50	22	20	0	234·52	82·94	Surcharged wall.
	24·50		22·50	44	30	0	469·04	674·54 150·00	do. Additional at mouth of culvert.
	22·50		21·50	22	15	0	217·80	—	Surcharged wall.
	15·50		13·50	44	18	0	469·04	80·53 150·00	do Additional at mouth of culvert.
	11·00		10·00	22	30	0	195·36	308·00	—
	4·50		1·50	66	9	0	318·25	—	Surcharged wall.
1	78·00	1	77·50	11	15	0	108·90	—	do.
	67·50		66·00	33	30	0	293·04	462·00	—
	46·50		41·50	44	25	0	469·04	396·00.	Surcharged wall.
	32·50		31·50	22	10	0	128·32	—	do.
0	46·50		45·50	22	10	0	128·32	—	do.
	30·25		29·50	16·50	20	0	175·89	62·20	do.
		Section No. 3.— Idulgashena to Haputale.							
0	22·75	0	25·25	55	10	0	320·80	50·00	Surcharged wall. Additional at mouth of culvert.

Retaining Walls.—continued.

From		To		Length		Contents in cubic yards	Contents in Rs.	Remarks
m.	ch	m.	ch	yds.	ft.	cubic yards	cubic yards	
0	44·50	0	45·50	33	0	3,178	500·00	Breast wall surcharged.
	45·50		46·50	22	15	217·50		Surcharged wall.
	46·50		47·50	22	30	234·52	237·27 50·00	do Additional at mouth of culvert.
	47·50		48·50	22	25	2,143·52	178·75	Surcharged wall.
	48·50		54·50	132	6	417·50	—	do.
	50·50		60·50	88	8	632·40	3·00	Additional at mouth of culvert.
	60·50		62·50	44	14	308·[illegible]	3·00	do
	62·50		63·50	66	10	351·50	—	—
	65·50		66·50	22	25	1,[illegible]	178·75 80·00	Additional at mouth of culvert.
	66·50		67·50	22	14	1,[illegible]	—	—
	74·50		75·50	110	10	5,[illegible]	—	—
	76·50		79·50	66	10	5,[illegible]	—	Breast wall surcharged.
	79·50	1	1·50	44	90	5,[illegible]70	146·52 50·00	Additional at mouth of culvert.
	1·50		3·50	44	0	88·62	—	—
	3·50		6·50	66	18	586·08	10·00	—
	7·00		9·00	44	8	156·[illegible]	50·00	Additional at mouth of culvert.
	13·00		17·50	88	17	871·29		Surcharged wall.
	17·50		21·50	132	15	1,[illegible]·80	50·00	Surcharged wall. Additional at mouth of culvert.
	21·50		26·50	44	30	489·[illegible]4	674·54	Breast wall surcharged.
	28·50		30·50	44	8	156·21	—	—
	30·50		32·50	44	25	390·72	457·50	—
	32·50		37·50	110	11	589·38	—	—
	37·50		39·50	44	22	390·72	227·50 100·00	Additional at mouth of culvert.
	41·50		47·50	132	24	1,172·16	958·50	—
	16·50	2	19·50	66	22	7[illegible]3·56	384·98	Surcharged wall.
	34·50		36·50	44	20	439·04	165·88	do
	36·50		37·50	22	32	234·52	390·94	do.
	37·50		38·50	22	10	128·32	—	do.
	51·50		52·50	22	25	195·36	178·75	—
	63·25		64·00	16·50	32	146·52	264·00	—
	65·50		67·50	44	5	88·62	—	—
	68·50		69·50	22	20	195·36	73·26 50·00	Additional at mouth of culvert.
	69·50		71·00	33	5	66·46	—	—
	27·50	3	28·50	22	10	128·32	—	Surcharged wall.
	28·50		29·50	22	20	234·52	82·94 30·00	do. Additional at mouth of culvert.
	32·50		34·50	44	5	113·08	—	Surcharged wall.
	34·50		35·50	22	10	128·32	—	do.
	35·50		37·50	44	25	469·04	396·00	do.
	41·75		42·25	11	8	39·05	—	do.
	48·25		48·75	11	5	22·15	—	—
	51·75		52·25	11	5	22·15	—	—
	71·50		73·50	44	15	857·48	—	—
	73·50		74·50	22	20	195·36	73·26	—
	74·50		75·50	22	30	195·36	308·00	—
	7·50	4	11·50	88	22	781·44	451·61	—
	11·50		12·00	11	40	97·68	293·26	—
	12·00		12·50	11	30	97·68	154·00	—
	17·50		18·50	22	10	128·32	—	Surcharged wall.
	19·75		20·25	11	10	64·16	—	do.
	25·75		26·25	11	12	66·00	—	—
			Total c. yards		—	32,389·64	20,380·44	

Estimate.

		Rs.	Cts.
32,389·64 cubic yards of dry walling at 4 rupees per cubic yard	=	129,558	56
20,380·44 walling in mortar at 8 rupees do.	=	163,043	52
Grand Total	:..	Rs 292,602	8

AMBAWELLA TO HAPUTALE DISTRICT, SECTION NO. 2.—DEMODARA TO IDULGASHENA.

ESTIMATE for Bridge at 4 miles 50·60 chains on 6·37 chains curve.—One 100 ft. girder span, Road on top.—Drawing No. 3.

Description	Each				Total				Rate		Amount	
									Rs.	Cts.	Rs.	Cts.
Masonry.												
In abutments and wings (single-faced)	157·44 c. yards								15	0	2,361	60
Ashlar.												
In caps, strings, and copings	558 c. feet								1	50	837	0
Wrought Iron	tons	cwts.	qrs.	lbs.	tons	cwts.	qrs.	lbs.				
In 2 main girders, 100 ft. long	20	0	0	0	43	0	0	0	300	0	13,050	0
„ 25 cross girders with cantilevers	0	8	0	18	15	4	0	2			3,060	27
„ 50 hand-rail standards	0	0	0	14¾	0	6	2	9	..		98	70
„ 2 roller frames	0	0	2	0	0	0	4	0	...		12	0
„ 16 holding-down plates, 10 in. by 10 in. by ½ in.	0	0	0	13¾	0	1	3	24	..		29	46
„ 10 sets cross bracing between girders	0	7	0	13	3	11	0	18			1,067	41
„ 16 holding-down bolts, 3 ft. 6 in. by 1½ in.	0	0	0	25	0	3	2	8	400	0	71	43
„ 700 bolts for securing planking, 3 in. by ½ in.	0	0	0	0¼	0	2	0	9	.		41	60
„ 200 bolts for hand-rail standards	0	0	0	0¼	0	0	3	16	.		17	86
„ 600 lineal feet of tubing for hand-rail	0	0	0	11·5	0	6	0	18	...		123	21
Steel.												
In 2 sets of 5—3 in. rollers	0	1	3	10	0	3	2	20	450	0	82	76
Cast Iron.												
In 4 bed plates	0	5	0	0	1	0	0	0	200	0	200	0
Timber.												
In 282 cubic feet of 3 in. planking	...				..				2	0	564	0
In 144 cubic feet of longitudinal rail timbers 14 in. by 7 in.	...				..				2	0	288	0
									Total .. Rs.		42,118	30

AMBAWELLA TO HAPUTALE DISTRICT, SECTION NO. 2.—DEMODARA TO IDULGASHENA.

ESTIMATE for Bridge at 3 miles 36·77 chains on 5·74 chains curve.—One 80 ft. girder span, Road on top.—Drawing No. 4.

Description.	Each.				Totals.				Rate.		Amount.	
									Rs.	Cts.	Rs.	Cts.
Masonry.												
In abutments and wings (single-faced)	904·20 c. yards.				...				15	0	13,563	0
Ashlar.												
In caps, strings, and copings	437·12 c. feet				..				1	50	655	68
Wrought Iron.	tons	cwts.	qrs.	lbs.	tons	cwts.	qrs.	lbs.				
In 2 main-girders, 80 ft. long	12	5	3	0	24	11	2	0	300	0	7,372	50
„ 17 cross girders with cantilevers	0	8	0	18	6	18	2	26	...		2,080	98
„ 34 hand-rail standards	0	0	0	14¾	0	4	1	25	...		67	9
„ 2 roller frames	0	0	1	3	0	0	2	6	...		8	30
„ 16 holding down plates, 10 in. by 10 in. by ½ in.	0	0	0	13¾	0	1	3	24	...		29	46
„ 6 sets cross bracing between girders	0	2	3	8	0	16	3	20	...		253	93
„ 16 holding-down bolts, 3 ft. 6 in. by 1½ in.	0	0	0	25	0	3	2	8	400	0	71	43
„ 476 bolts for securing planking 3 in. by ½ in.	0	0	0	0¼	0	1	1	19	...		28	39
„ 136 bolts for securing hand-rail standards	0	0	0	0	0	0	2	12	...		12	14
„ 480 lineal feet tubing for hand-rail	0	0	0	11	0	4	3	20	...		98	57
Steel.												
In two sets of 5—3 in. rollers	0	1	3	10	0	3	2	20	450	0	82	76
Cast Iron.												
In 4 bed plates	0	4	2	2	0	18	0	8	200	0	180	71
Timber.												
In 225·60 cubic feet of 3 in. planking at	...				...				2	0	451	20
„ 115·59 cubic feet of longitudinal rail timbers 14 ft. by 7 in.	...				...				2	0	231	18
									Total ... Rs.		27,187	32

AMBAWELLA TO HAPUTALE DISTRICT.—SECTION NO. 2, DEMODARA TO IDULGASHENA.

ESTIMATE for Bridge at 3 miles 32·51 chains on 5·74 chains curve.—One 40-feet girder span.—Road on top.—Drawing No. 5.

Description.	Each.				Totals.				Rate.		Amount.	
									Rs.	Cts.	Rs.	Cts.
Masonry.												
In abutments and wings (single-faced)	193·32 cu. yds.								15	0	2,899	80
Ashlar												
In caps, strings, and copings ...	278·75 cubic feet				...				1	50	418	12
Wrought Iron	tons.	cwts.	qrs.	lbs	tons	cwts.	qrs.	lbs.				
In 2 main girders 44 feet 6 inches long ..	3	4	0	0	6	8	0	0	300	0	1,920	0
„ 9 cross girders with cantilevers ..	0	8	0	18	3	13	1	22	...		1,101	70
„ 18 hand-rail standards	0	0	0	14¾	0	2	1	13	.		35	49
„ 16 holding down plates, 10 in. by 10 in. by ½ inch ...	0	0	0	13¾	0	1	3	24	...		29	46
„ 4 sets cross bracing between girder	0	2	0	15	0	8	2	4	.		128	4
„ 16 holding-down bolts, 3 ft. by 1 in. .	0	0	0	9¼	0	1	1	8	100	0	26	43
„ 216 bolts for securing planking	0	0	0	0¼	0	0	2	16	...		12	86
„ 72 bolts for hand rail standards ...	0	0	0	0¼	0	0	1	8	..		6	43
„ 240 lineal feet tubing for hand-rail ...	0	0	0	1·15	0	2	1	24	..		49	29
Cast Iron												
In 4 bed plates 2 feet 6 in. by 2 feet by 1 in. ...	0	1	3	4	0	7	0	16	200	0	71	43
Timber												
In 106·6 cubic feet of 3 in. planking	..				..				2	0	213	20
In 54·13 cubic feet of longitudinal rail timbers	.				..				2	0	108	86
									Total...Rs		7,021	11

AMBAWELLA TO HAPUTALE DISTRICT.—SECTION NO. 2, DEMODARA TO IDULGASHENA.

ESTIMATE for Bridge at 2 miles 72·55 chains on 6·37 chains curve.—One 100 feet girder span.—Road on top.—Drawing No. 5.

Description.	Each.				Totals.				Rate.		Amount.	
									Rs.	Cts.	Rs.	Cts.
Masonry												
In abutments and wings (single-faced) ...	337 69 cubic yards				...				15	0	5,065	35
Ashlar.												
In caps, strings, and copings	651 cubic feet				...				1	50	976	50
Wrought Iron.	tons	cwts	qrs	lbs.	tons	cwts.	qrs.	lbs.				
In 2 main girders, 100 ft. long .	20	0	0	0	40	0	0	0	300	0	12,000	0
„ 25 cross girders with cantilevers ..	0	8	0	18	10	4	0	2	...		3,060	27
„ 50 hand rail standards ..	0	0	0	14¾	0	6	2	9	.		98	70
„ 2 roller frames ..	0	0	2	0	0	1	0	0	...		15	0
„ 16 holding down plates 10 in. by 10 in. by ½ i	0	0	0	13¾	0	1	3	24	...		29	46
„ 10 sets cross bracing between girders ..	0	7	0	13	3	11	0	18	...		1067	41
„ 16 holding-down bolts, 3 ft. 6 in. by 1½ in	0	0	0	25	0	3	2	8	400	0	71	43
„ 700 bolts for securing planking, 3 in. by ½ in.	0	0	0	0¼	0	2	0	9	...		41	60
„ 200 bolts for hand-rail standards ...	0	0	0	0¼	0	0	3	16	...		17	86
„ 600 lineal feet tubing for hand-rail ...	0	0	0	1·15	0	6	0	18	...		123	21
Steel.												
In 2 sets of 5—3 in rollers	0	1	3	10	0	3	2	20	450	0	82	76
Cast Iron.												
In 4 bed plates	0	5	0	0	1	0	0	0	200	0	200	0
Timber.												
In 282 cubic feet of 3 in. planking ...	...				...				2	0	564	0
In 144 cubic feet of longitudinal rail timbers, 14 in. by 7 in.	...				...				2	0	288	0
									Total ... Rs		23,701	55

C 4.

AMBAWELLA TO HAPUTALE DISTRICT.

Iron Girder Bridges.—Quantities and Estimate.

Distance.	Head-way.	Rubble in abutments.			Rubble in wings.			Ashlar caps and strings.			Wrought iron in girders.			Cast iron in bed plates.			Hardwood sleepers under girders.			Longitudinal timbers.			Excavation for foundations.			Wrought iron in bolts and nuts.			Amount.		Total.	
			Rate.	Amount.		Rate.	Amount.		Rate	Amount		Rate	Amount.		Rate	Amount.		Rate.	Amount		Rate.	Amount.		Rate.	Amount.		Rate	Amount.				Amount.	
								Section No. 1.—AMBAWELLA TO DEMODARA																									
								20 feet Girder Bridges																									
m. chs.	ft. in.	c. yds.	R.	R. C.	c. yds	R.	R. C.	c. ft	R.	R C.	Tons.	R.	R C.	Cwt	R.	R C	c. ft	R	R. C.	c. ft.	R.	R. C.	c. yds	R.	R C	lbs	R. C.	R. C.	Rs.	Cts.	Rs	Cts.
3 30·41	5 0	38·2	15	473 0	20·0	15	300 0	108 0	1 50	162 0	2 00	300	600 0	1 0	10	10 0	20	0	2 40 0	30·3	2	60 60	30	1	30 0	70	0 20	14 0	1,689	60		
7 38·24	24 0	193·9	—	2,908 5	34·0	—	5,145 0	260 0	—	390 0	2 00	—	600 0	1 0		10 0	20	0	— 40 0	70·3	—	60 60	160	—	150 0	70	—	14 0	9,318	10		
7 65·70	16 0	119·9	—	1,798 50	143·5	—	2,152 50	196 0	—	294 0	2 00	—	600 0	1 0	—	10 0	20	0	— 40 0	35·3	—	60 60	120	—	120 0	70	—	14 0	5,089	60	16,097	30
																												Vulcanized India Rubber, &c., at joint, say					
								Wrought iron trough for Pattupola Ella. Drawing No. 1.																									
m. chs.																																	
5 1·33	—	18 50	15	277 50	—	—	—	91 0	1 50	136 50	3·425	300	1027 50	—	—	—	—	—	—	—	—	—	20	1	20 0	—	—	30 0	1,491	50	1,491	50
																												Total ... Rupees			17,588	80

ABSTRACT.

Section No. 1.—AMBAWELLA TO DEMODARA.

		Rs.	Cts.
20 feet Girder Bridges		16,097	30
Wrought Iron Trough for Pattupola Ella, Drawing No 1 ...		1,491	50

Section No. 2.—DEMODARA TO IDULGASHENA.

Bridge at 4 miles 50·60 chains ...	Drawing No. 3 ...	42,128	30
" 3 " 36·77 " ...	" 4 ...	27,187	32
" 3 " 32·51 " ...	" 5 ...	7,021	11
" 2 " 72·55 " ...	" 5 ...	23,701	55
	Total, Rs...	117,627	8

RAILWAY EXTENSION.

FURTHER PAPERS.

NAMUNUKULA TO HAPUTALE.

C 9.

AMBAWELLA TO HAPUTALE DISTRICT.

ARCHED CULVERTS—*Quantities and Estimate.*

Mileage.			Description.	Height of Bank.		Length of Culvert.		Excavation for Foundations.	Remarks.
miles.	chs.	ft. in.		ft	in.	ft.	in.		
			Ambawella to Demodara—Section No. 1.						
2	29 07	5 0	arch	33	0	75	0	22 50	14 in. arch ring.
3	19·	5 0	"	53	0	129	0	36 54	14 in. arch ring.
4	39 85	5 0	"	40	0	113	0	32·38	14 in. arch ring.
5	1·33	5 0	"	53	6	132	0	37·32	14 in. arch ring.
	28 85	5 0	"	17	0	41	0	13·66	9 in. arch ring.
6	9 87	5 0	"	67	0	164	0	45·64	14 in. arch ring.
7	16·86	5 0	"	45	0	112	0	32 12	14 in. arch ring.
	19·	8 0	"	57	0	121	0	42·30	
	69·17	8 0	"	34	0	81	0	30·80	
			Demodara to Idulgashena—Section No. 2.						
3	26·76	12 0	"	30	0	67	0	33 79	
	8·96	16 0	"	81	0	195	0	94·60	
4	72·31	16 0	"	39	0	64	0	41·60	
	67 28	5 0	"	45	0	85	0	25·10	Wall at lower end, 14 in. arch ring.
	46·33	8 0	"	24	0	55	0	22·50	
	1·15	8 0	"	34	6	80	0	30·	Wall at lower end.
3	67·25	8 0	"	14	6	47	0	20·10	
	61 69	12 0	"	23	6	26	0	14 12	Wall at lower end.
	47 52	8 0	"	26	6	31	0	12·30	Wall at lower end.
	22·68	5 0	"	59	0	74	0	20 74	Wall at lower end, 14 in. arch ring.
	11·50	8 0	"	50	0	59	0	20·70	Wall at lower end.
2	52 46	8 0	"	39	6	51	0	18·30	Wall at lower end.
2	10·42	5 0	"	56	0	16	0	16·03	Wall at lower end 14 in. arch ring.
1	54 34	8 0	"	31	6	67	0	26 10	
	47·09	12 0	"	61	6	111	0	50·07	
	32·13	8 0	"	22	0	44	0	19·20	
0	66 84	12 0	"	30	0	53	0	28 61	
			Idulgashena to Haputale—Section No. 3.						
1	44·42	5 0	"	29	0	42	0	12·42	Wall at lower end, 14 in. arch ring.
	65 41	8 0	"	62	0	182	0	60·60	
2	24 30	5 0	"	49	0	113	0	32 38	14 in. arch ring.
	37·13	5 0	"	52	6	121	0	32 96	Wall at lower end 14 in. arch ring.
	50·74	5 0	"	51	0	140	0	39 40	
	77·70	8 0	"	64	0	173	0	57 90	
3	44 14	5 0	"	16	0	43	0	14·18	9 in. arch ring.
	26 77	5 0	"	37	6	121	0	34·46	14 in. arch ring.
	29·30	5 0	"	28	6	56	0	16 06	Wall at lower end, 14 in. arch ring.
	65 25	5 0	"	87	0	280	0	75·80	14 in. arch ring.
			Total, Excavation for Foundations					1,162·21	

ESTIMATE FOR ARCHED CULVERTS—*continued.*

	Each cubic yards.	Total cubic yards.	Rate. Rs. Cts.	Amount. Rs. Cts.
Rubble Masonry.				
In two 16 ft. 0 in. culverts, ends and wings	195·18	390·96		
" " 259 feet run of abutments	3·216	832·94		
In three 12 ft. 0 in. culvert, ends and wings	110·55	331·65		
In one 12 ft. 0 in. culverts, ends and wings, with wall at lower end	55·27	55·27		
In four 12 ft. 0 in. culverts, 257 ft. run of abutments	2·426	623·48		
In eight 8 ft. 0 in. culverts, ends and wings	51·79	414 32		
In four 8 ft. 0 in. culverts, ends and wings, with walls at lower ends	25·89	103·56		
In twelve 8 ft. 0 in. culverts, 994 ft. run of abutments	1·28	1268·48		
In twelve 5 ft. 0 in. culverts, ends and wings	20·27	243·24		
In six 5 ft. 0 in. culverts, ends and wings, with walls at lower ends	10·13	60·78		
In eighteen 5 ft. 0 in. culverts, 1897 ft. run of abutments	0·728	1381·02		
		5705·70	15 0	85,585 50

ESTIMATE FOR ARCHED CULVERTS—*continued.*

	Each cubic yards.	Total cubic yards.	Rate. Rs. Cts.	Amount. Rs. Cts.
Backing to Arches.				
In two 16 ft. 0 in. culverts 259 ft. run ...	1·27	328·93		
In four 12 ft. 0 in. culverts 257 ft. run ..	0·817	209 97		
In twelve 8 ft. 0 in. culverts 991 ft. run...	0·417	413·25		
In eighteen 5 ft. 0 in. culverts 1897 ft. run	0·238	451·49		
		1403·64	... 10 0 ...	14,036 40
Masonry or Brick-work in Arches.				
In two 16 ft. 0 in. culverts 259 ft. run...	1·528	395·75		
In four 12 ft. 0 in. culverts 257 ft. run ..	0·892	229·24		
In twelve 8 ft. 0 in. culverts 991 ft. run...	0·621	615·41		
In sixteen 5 ft. 0 in. culverts 1813 ft. run 14 in. arch ring	0·42	761·46		
In two 5 ft. 0 in. culverts 84 ft. run 9 in. arch ring	0·25	21·00		
		2022·86	... 20 0 ...	40,457 20
Ashlar Caps and Strings.	cubic. ft.			
In two 16 ft. 0 in. culverts each	59·50	119·00		
four 12 ft. 0 in. ,, ,,	56·75	227·00		
twelve 8 ft. 0 in. ,, ,,	20·66	247·92		
eighteen 5 ft. 0 in. culverts ,,	13·66	245·88		
		839·80	... 1 50 ..	1,259 70
Excavation for Foundations		1162 24	1 · 0 ...	1,162 21
			Total...Rs.	142,501 1

C 6.

AMBAWELLA TO HAPUTALE DISTRICT.

FLAT-TOPPED CULVERTS.—*Quantities and Estimate.*

Mileage. mls.	chs.	Description.	Height of Bank. ft.	in.	Length of Culvert. ft.	in.	Excavation for Foundations.	Remarks.
		Section No. 1—Ambawella to Demodara.						
2	40·00	... 2 ft. 6 in. square culvert ..	4	0	23	0	... 5·52	
	44·20	... 2 ft. 6 in. ,, ...	21	0	69	0	.. 11·96	
	58·98	.. double 2 ft. 6 in. sq. cul	31	6	110	0	... 17 70	
		ft. in.						
	72 00	... 2 ft. 6 in. square culvert ..	29	0	81	0	... 13 64	
3	0·90	... 2 ft. 6 in. ,, ...	29	0	80	0	.. 13 50	
	25·10	... 2 ft. 6 in. ,, ...	12	0	40	0	... 7·90	
	30 90	... 2 ft. 6 in. ,, ...	3	0	18	0	... 4 82	
	40·00	... 2 ft. 6 in. ,, ...	5	0	25	0	... 5 80	36 c. yds. concrete
	45 50	... 2 ft. 6 in. ,, ...	2	0	18	0	.. 4·82	36 c. yds. concrete
	55·92	... double 2 ft. 6 in. sq. cul.	2	0	18	0	... 7 46	72 c. yds. concrete
		ft. in.						
	63·50	... 2 ft. 6 in. square culvert ...	1	0 cutting	20	0	... 5 10 / 40 00	For out fall
	79·00	... 2 ft. 6 in. ,, ...	5	0	25	0	... 5 80	40 c. yds. concrete
4	7·00	... 2 ft. 6 in. ,, ...	4	0	21	0	... 5·24	36 c. yds. concrete
	22·13	... 2 ft. 6 in. ,, ...	4	0	24	0	... 5 66	
	55·92	... 2 ft. 6 in. ,, ...	14	6	44	0	... 8·46	
	67·00	... 2 ft. 6 in. ,, ...	24	0	70	0	... 12·10	
5	11·40	.. 2 ft. 6 in. ,, ...	31	0	52	0	... 9 58	Wall at lower end
	17·00	... 2 ft. 6 in. ,, ...	5	0	45	0	... 8 40	
	21 86	... 2 ft. 6 in. ,, ...	26	0	75	0	... 12 80	
	58·00	... 2 ft. 6 in. ,, ...	13	0	28	0	... 6·22	Wall at lower end
	60·72	... 2 ft. 6 in. ,, ...	21	0	69	0	... 11·96	
	63·30	... 2 ft. 6 in. ,, ...	17	6	36	0	... 7 34 / 8 00	For inlet
	68·50	... 2 ft. 6 in. ,, ...	6	0	29	0	... 6·36 / 8 00	For inlet
	73·50	... 2 ft. 6 in. ,, ..	13	0	32	0	... 6·78	Wall at lower end
	77 30	... 2 ft. 6 in. ,, ...	1	0	61	0	10·84	Wall at lower end
6	4·50	... 2 ft. 6 in. ,, ...	10	0	30	0	... 6·50	Wall at lower end
	11·75	... 2 ft. 6 in. ,, ..	35	0	93	0	... 15 32	Wall at lower end
	17·08	... double 2 ft. 6 in. sq. cul ...	24	0	92	0	... 23·96	

RAILWAY EXTENSION.

FURTHER PAPERS.

NANU-OYA TO HAPUTALE.

FLAT-TOPPED CULVERTS—*continued.*

Mileage. miles.	chs.	Description. ft. in.	Height of Bank. ft.	in.	Length of Culvert ft.	in.	Excavation for Foundation.	Remarks.
6	23·60	... 2 6 square culvert ..	33	0	... 58	0	... 10·42	Wall at lower end
	28·00	... 2 6 „ ...	17	0	... 35	0	... 7·20	Wall at lower end
	38·23	... double 2 ft. 6 in. sq. culv.	44	0	... 87	0	... 22·64	Wall at lower end
	56·18	. . „ „ ...	8	0 cutting	16	0	... 7·02 / 65 00	For outfall
		ft. in.						
	60·30	... 2 6 square culverts ...	32	6	... 89	0	... 14·76	
	67·00	.. 2 6 „ ...	23	0	... 74	0	... 12·66	
	71·00	.. 2 6 „	18	6	... 58	0	... 10·42	
7	0·82	... 2 6 „ ..	17	0	... 51	0	... 9·44	
	12·30	... 2 6 „ ...	2	0	... 25	0	... 5·80 / 8·00	For inlet
	31·68	.. double 2 ft. 6 in. sq. culv.	14	0	... 44	0	... 13·18	
		ft in.						
	33·00	... 2 6 sq. culvert ...	11	0	... 36	0	. 7·34	
	29·76	... 2 6 „ ...	3	6	... 27	0	... 6·08	
	48·75	... 2 6 „ ...	5	6	... 24	0	... 8·00 / 5·66	For inlet wall at lower end
	76·05	... 2 6 „ ..	14	0	... 49	0	... 9·96	
8	3·51	... 2 6 „ ...	40	0	... 115	0	... 18·40	
	10·37	.. 2 6 „ ...	6	0	... 43	0	... 8 32	
	16·05	... 2 6 „ ...	1	0	.. 18	0	... 5·00 / 4·74	For inlet
	18·40	... double 2 ft. 6 in. sq. culv ...	20	6	. 73	0	... 19 53	
	26·00	... 2 ft. 6 in. culvert ...	5	6	... 28	0	... 6·22	
	34 35	... double 2 ft. 6 in. sq. culv...	35	0	... 103	0	.. 26.16	
	45·20	... „ .	3	0 cutting	16	0	... 7·02 / 24 00	For outfall
		Section No. 2.—Demodara to Idulgashena.						
5	3·81	... double 2 ft. 6 in. sq. cul ...	31	6	... 54	0	... 15·38	Wall at lower end
4	60 64	... 2 ft. 6 in. sq uare culvert	13	0	.. 35	0	... 7·20	Wall at lower end
	38·40	... 2 6 „ ..	13	0	... 96	0	... 15·74	Wall at lower end
	33·31	... double 2 ft. 6 in. sq. culv...	14	0	... 33	0	... 10·56	Wall at lower end
	26·33	... do. 2 ft. 6 in. „	18	6	... 69	0	... 18 68	
	19·94	... do. 2 ft. 6 in. „	12	0	.. 40	0	... 12·30	
	17 50	... do. 2 ft. 6 in. „	8	6	... 31	0	... 10·32	
3	78·46	... 2 ft. 6 in. sq. culvert ...	20	6	.. 98	0	... 16 02	
	75 17	.. 2 ft. 6 in „ ...	16	6	... 73	0	... 12·52	
	69·74	... double 2 ft 6 in. sq. culv...	18	0	... 73	0	... 19·56	
2	78·40	... 2 ft. 6 in. sq. culvert ...	3 ft. cutting		.. 18	0	... 30·00 / 4 82	For inlet
	59·31	... double 2 ft. 6 in. sq. culv.	40	6	... 68	0	... 18 46	Wall at lower end
	42·35	... do. 2 ft. 6 in. „ ...	28	0	... 48	0	... 14 06	Wall at lower end
	36·29	... 2 ft. 6 in. sq culvert ...	14	0	... 30	0	... 6·50	Wall at lower end
	23 00	... double 2 ft. 6 in. sq culv.	44	0	... 112	0	... 28·14	Wall at lower end
	14·00	... 2 ft. 6 in sq culvert ...	28	0	... 112	0	... 17·88	Wall at lower end
	3 00	. . 2 ft. 6 in sq culvert ..	24	0	... 78	0	... 13 22	
1	66·12	... double 2 ft. 6 in. sq culv.	36	0	... 55	0	... 15·60	Wall at lower end
	44·63	... do. 2 ft 6 in. „	20	0	... 68	0	... 18·46	
	39·56	... do. 2 ft. 6 in. „	2	6 cutting	18	0	... 8·00 / 7·42	For inlet
	25·81	... do. 2 ft. 6 in. „	20	0	... 61	0	... 16·9[illegible]	
	23·36	... 2 ft. 6 in sq culvert ...	15	0	... 53	0	... 9·7[illegible]	
	17·49	... 2 ft. 6 in. „ ...	23	0	... 66	0	... 11·5[illegible]	
	15·35	.. 2 ft. 6 in. „ ...	17	0	... 58	0	... 10·4[illegible]	
0	78·49	... 2 ft. 6 in „ ...	13	0	... 46	0	... 8·7[illegible]	
	74·00	... double 2 ft. 6 in. sq culv.	5	6	.. 29	0	.. 9·88	
	70·47	... do. 2 ft. 6 in. „	11	6	... 40	0	... 12·30	
	60·50	... 2 ft. 6 in. sq culvert ...	2	6 cutting	18	0	.. 4·82 / 8·00	For inlet
	53·85	... 2 ft. 6 in. „ ...	24	0	... 83	0	.. 15 12	
	36·62	... double 2 ft. 6 in sq. cul....	22	6	... 68	0	... 18·46	
	29·87	... do. 2 ft 6 in. „ ...	16	0	... 56	0	... 15·82	Wall at lower end
	17·50	... do. 2 ft. 6 in. „ ...	10	0	... 39	0	... 12 08	
	11·00	... 2 ft. 6 in sq. culvert ..	11	0	.. 43	0	... 8 32	
	6·00	... 2 ft. 6 in. „ ..	8	0	... 34	0	... 7 06	
		Section No. 3.—Idulgashena to Haputale.						
		ft. in.						
0	24·42	... 2 6 square culvert ...	8	0	... 49	0	... 9 16	
	28·36	... 2 6 „ ...	1	0 cutting	61	0	... 10·00 / 10·84	For inlet
	36·00	... 2 6 „ ..	17	0	... 80	0	... 1[illegible]·50	
	47 55	... 2 6 „ ...	39	0	... 85	0	... 14 20	Wall at lower end
	57·45	... 2 6 „ ...	9	0	. 27	0	... 6·[illegible]8	Wall at lower end
	62·38	... 2 6 „ ...	15	0	... 34	0	.. 7 06	Wall at lower end
	66·27	... 2 6 „ ...	29	6	... 54	0	... 9·86	Wall at lower end
	79·83	... 2 6 „ ...	16	6	... 40	0	... 7·90	Wall at lower end
1	4·41	... 2 6 „ ...	15	0	... 33	0	... 6·92	Wall at lower end
	8·00	... 2 6 „ ...	5	0	... 27	0	... 6·08 / 8·00	For inlet. Wall at lower end
	16·20	... 2 6 „ ...	7	0	... 44	0	... 5 00 / 8·46	For inlet. Wall at lower end

FLAT-TOPPED CULVERTS—*continued.*

Mileage. miles.	chains.	Description.	Height of Bank. ft.	in.	Length of Culvert. ft.	in.	Excavation for Foundations.	Remarks.
1	21·77	... double 2 ft. 6 in. sq. culvert	20	0	82	0	21·54	Wall at lower end
	32·00	... double 2 ft. 6 in. " ...	14	0	30	0	10·10	Wall at lower end
	37·74	... 2 ft. 6 in sq. culvert "	17	0	35	0	7·20	Wall at lower end
	39·45	... double 2 ft. 6 in. sq cul.	30	0	59	0	16·48	Wall at lower end
	42·27	.. double 2 ft. 6 in. "	11		29	0	9 88	Wall at lower end
	56·00	.. 2 ft. 6 in. sq. culvert ...	1	0 cutting	27	0	... 16·00 .. 6·08	For inlet
	72·80	. 2 ft. 6 in. " ...	1	0 cutting	27	0	... 6·08 ... 16 00	For inlet
	77 59	... double 2 ft. 6 in. sq. culvert	11	0	42	0	12·74	
2	0·30	... 2 ft. 6 in. sq. culvert ..	9	0	53	0	9·72	
	3·78	.. double 2 ft. 6 in. sq. culvert	13	0	86	0	22·42	
	10·00	... 2 ft. 6 in. sq. culvert ..	22	0	87	0	14·48	
	18·60	... 2 ft. 6 in sq. culvert ...	27	0	84	0	14 06	
	43·72	... double 2 ft. 6 in. sq. culvert	20	6	72	0	19·34	
	63·65	.. 2 ft. 6 in. sq. culvert ..	29	6	115	0	17·25	Wall at lower end
	69·05	... 2 ft 6 in. " ...	17	0	37	0	6 33	Wall at lower end
3	00·00	... double 2 ft. 6 in. sq. culvert	26	0	105	0	26 60	
	12·00	... double 2 ft. 6 in. "	31	0	99	0	25 28	
	22 17	... 2 ft. 6 in. sq. culvert ...	3	6	18	0	4·82	
	32·00	... " " ..	9	0	59	0	10·56	
	36 85	.. " " ..	20	6	51	0	8 29	Wall at lower end
	42 00	. " " ...	14	0	91	0	13 86	Wall at lower end
	48·43	.. " " ..	4	0	21	0	8·00 5 24	For inlet; wall at lower end.
	51·80	... " " ...	1	0	18	0	8 00 4 82	For inlet; wall at lower end.
	71·05	... " " ...	17	0	80	0	13·50	
	75 22	... " "	25	0	46	0	7·59	Wall at lower end
	78·49	... " " ...	13	0	47	0	8·88	
4	7 04	.. " " ...	16	6	32	0	6 63	Wall at lower end
	12·00	... " " ...	40	0	59	0	9 41	Wall at lower end
	18·00	" " " ...	4	0	56	0	8 99	Wall at lower end
	29 00	... " " ...	25	0	90	0	14·90	
	42·67	... " " ..	24	0	85	0	14·20	
	48·33	... " " .	5	0	30	0	6·50	
		Total, Excavation for Foundations ...					1708·48	

Estimate for Flat-topped Culverts.

Rubble Masonry.	Each. Cubic yards.		Total. Cubic yards.		Rate. Rs. Cts.	Amount. Rs. Cts.
In ends of 24 double 2 ft. 6 in. culverts ...	2·65	..	63 06			
In ends of 12 double 2 ft 6 in. culverts with retaining walls at lower ends ...	1 33	...	15 96			
In walls of 36 double 2 ft. 6 in. culverts, 2,125 feet run	1·207	...	2[illegible] 87			
In ends of 59 single 2 ft 6 in. culverts ...	1·57	...	92·63			
In ends of 31 single 2 ft. 6 in. culverts with retaining walls at lower ends ..	79	...	24·49			
In walls of 90 single 2 ft. 6 in. culverts, 4561 feet run	·73	...	[illegible] 53			
			6091·08	...	12 00	73,092 96
Concrete						
In 2125 ft. run of double 2 ft. 6 in. culverts	0·198	...	210 12			
In 4561 " of single 2 ft. 6 in. culverts	0·069	...	314 71			
Additional to culverts in swamp (See detailed list)	—	...	220·00			
			774·83	...	6 00	... 4,648 98
Excavation for foundations ...	—	...	1708 48	...	1 00	... 1,708 48
					Total ...	Rs. 79,450 42

C 7.

AMBAWELLA TO HAPUTALE DISTRICT.

Section No. 1.—Ambawella to Demodara.

Arched bridge over Demodara-oya at 7 miles 54·77 chains—Span 30 ft. 0 in.—Length of abutments 110 feet.—Drawing No 2.—Quantities and Estimate.

Description.		Quantities.	Rate. Rs. Cts.	Amount. Rs. Cts.
Rubble Masonry.				
In abutments	cub. yds. ...	619·0	15 0	9,285 0
„ wing walls upper end	„ ...	280·90	—	4,213 50
„ wing walls lower end	„ ...	453·52	—	6,802 80
„ Spandril walls	„ .	86·37	—	1,295 55
Masonry or brickwork in arch ring	„ ...	409·44	20 0	8,188 80
Backing to arch	„ ...	523·85	10 0	5,238 50
Ashlar in coping	cub. feet .	346·50	1 50	519 75
Excavation for foundations	cub. yds. ...	312·77	1 0	312 77
			Total ... Rs.	35,856 67

C 8.

AMBAWELLA TO HAPUTALE DISTRICT.

Estimate for One Mile of Permanent Way.

	Description.	Weight.	Total Weight Tons.	Rate. Rs.	Amount. Rs. Cts.
3,720 yards	Steel rails ..	72 lbs. per yd. ...	113·14	150 per ton ...	16,971 0
1,008 No.	Fish plates ...	9·13 lbs. each ..	4·11 ...	120 „ ...	493 20
2,016 No.	... Fish bolts ...	1·45 „ ...	1·30 ..	260 „	338 0
4,032 No.	.. Fang bolts	3·72 „	6·69 ...	260 „ .	1,739 40
4,032 No.	. Spikes ...	1·00 „ ...	1·80 ...	210 „ ...	378 0
2,016 No.	Sleepers ..	— ..	118·00 ..	3·65 each ..	7,358 40
147 yards	.. Guard rails ...	40 lbs. per yd. ..	3·07 ..	100 per ton ...	307 0
168 No.	.. Cast iron blocks	5·38 lbs. each ...	0·40 ...	120 „ .	48 0
168 No.	... Bolts and nuts ..	1·88 „ ...	0·14 ...	300 „ ...	42 0
168 No.	... Spikes ...	1·00 „ ...	0·07 ...	210 „ ...	14 70
	Transport ..	—	248·72 ...	30 ...	7,461 60
	Ballast (at 2½ cubic yards per yard forward)			1 25 ...	5,500 0
					41,651 30
	Add 10 per cent. for sidings ...			...	4,165 20
				Total ... Rs.	45,816 50

NOTE.—The above estimate is calculated on the assumption that guard rails will be necessary only on curves of and under 6·04 chains radius; such curves aggregate in length about one-twelfth of the district.

C. 9.

AMBAWELLA TO HAPUTALE DISTRICT.

Estimate for Miscellaneous Items.

	Amount. Rs. Cts.
Forming base of embankment and draining between 3 miles 40 chains and 4 miles 9 chains on Section No. 1.	5,000 00
Draining; cutting leading to summit tunnel between 5 miles 30 chains and 5 miles 39·50 chains on Section No. 1.	2,500 00
Level-crossing Government cart road at Haputale Pass, at 4 miles 68·50 chains on Section No. 3, lodge and double gates. ...	1,500 00
Small-level crossings, No. 5, at Rs. 300	1,500 00
Total ... Rs.	10,500 00

D.

AMBAWELLA TO HAPUTALE DISTRICT.

Estimate of Rolling Stock required.

		Rate. Rs.		Amount. Rs.
5	Locomotive Engines	40,000	...	200,000
1	First class carriage ...	5,000	...	5,000
2	Second class carriages	3,800	..	7,600
5	Third class carriages	2,900	...	14,500
1	Horse-box	2,850	...	2,850
1	Carriage truck	1,200	..	1,200
1	Passenger brake van	3,800	..	3,800
40	Covered goods wagons	1,850	...	74,000
8	Deep-sided goods wagons	1,300		10,400
4	Low-sided goods wagons ..	1,200	..	4,800
2	Timber swivel wagons	1,500	...	8,000
1	Cattle wagon ...	1,850	...	1,180
3	Goods brake vans	4,950	..	14,850
			Total... Rs.	343,850

E.

AMBAWELLA TO HAPUTALE DISTRICT.—*List of Gradients.*

From	Height above datum.	To	Height above datum.	Length, Chains.	Gradient.	Remarks.
Section No. 1.—Ambawella to Demodara.						
m. chs		m. chs.				
2 28·00	6060·70	2 28·76	6060·70	0·76	Level	
2 28·76	6060·70	4 26·00	6265·10	157·24	1 in 59·77	Rising.
4 26·00	6265·10	4 40·10	6265·10	14·10	Level	
4 40·10	6265·10	4 60·00	6285·00	19·90	1 in 66	Rising.
4 60·00	6285·00	5 7·00	6285·00	27·00	Level	Pattupola station.
5 7·00	6285·00	5 23·00	6265·00	16·00	1 in 52·8	Falling.
5 23·00	6265·00	5 39·00	6257·00	16·00	1 in 132	Falling.
5 39·00	6257·00	...	...		...	
Section No. 2.—Demodara to Idulgashena						
		5 32·00	5883·93	248·72	1 in 44	Falling.
m. chs.						
5 32·00	5883·93	5 16·66	5883·93	15·34	Level	
5 16·66	5883·93	0 0·00	5258·95	416·66	1 in 44	Falling.
Section No. 3—Idulgashena to Haputale.						
m. chs.						
0 0·00	5258·95	0 15·00	5258·95	15·00	Level	Idulgashena station.
0 15·00	5258·95	0 30·00	5236·45	15·00	1 in 44	Falling.
0 30·00	5236·45	0 49·00	5212·70	19·00	1 in 52·8	Falling.
0 49·00	5212·70	4 30·00	4761·20	301·00	1 in 44	Falling.
4 30·00	4761·20	4 70·00	4761·20	40·00	Level	Haputale station.

It will be noted that on sections Nos. 2 and 3 in this table the heights above datum do not correspond with those marked on the Longitudinal section; this is owing to the fact that 43·95 feet (see paragraphs Nos. 21 and 29 in this report) have been added to reduce these heights to Ceylon Railway datum, and to make them correspond to the heights above datum on section No. 1.

RAILWAY EXTENSION.

FURTHER PAPERS.

NANU-OYA TO HAPUTALE.

F.

AMBAWELLA TO HAPUTALE DISTRICT.

Table of Quantities and Distribution of Earthwork.

From	To	Contents of Bank.	Contents of cutting	Volume to Bank.	Volume to spoil	Bank from side cutting.	Rock.	Earth.
Section No. 1.—Ambawella to Deyodder a								
2 miles 28 chains	m c	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.
Bank No. 1	2 32½	11653	—	—	—	4828	—	—
Cut „ 1	30½	—	6593	8741	—	—	3496	3497
Bank „ 2	40½	127		—	—	—	—	—
Cut „ 2	40½	—	1241	1697	—	—	923	308
Bank „ 3	40½	985		—	—	—	—	—
Cut „ 3	50½		5[illegible]	68[illegible]6	—	—	2742	2743
Bank „ 4	61	6222		—	—	—	—	—
Cut „ 4	69	—	8[illegible]36	106[illegible]5	489	—	4448	4448
Bank „ 5	71	8245		—	—	—	—	—
Cut „ 5	79½	—	15232	20977	—	—	11431	3811
Bank „ 6	3 13½	15700	—		—	—	—	—
Cut „ 6	17½		1774	2681	—	—	1774	—
Bank „ 7	21½	2[illegible]609	—	—	—	5530	—	—
Cut „ 7	2[illegible]	—	[illegible]671	2[illegible]	—	—	1671	
Bank „ 8	29	1578	—	—	—	—	—	—
Cut „ 8	30	—	1178	1797	—	—	1178	—
Bank „ 9	31	91	—	—	—	—	—	—
Cut „ 9	37		6549	9829		—	6549	—
Bank „ 10	4[illegible]	7[illegible]6	—		—	—	—	—
Cut „ 10	41½		264	264	—	—	—	264
Bank „ 11	46½	173		—		—		—
Cut „ 11	47½	—	[illegible]19	19	—	—	—	19
Bank „ 12	48½	[illegible]	—	—	—	—	—	—
Cut „ 12	55½		[illegible]2	377	375	—	—	952
Bank „ 13	60	154	—	—	—	—	—	—
Cut „ 13	7[illegible]		3174	1754	1420	—	—	3174
Bank „ 14	4 9	3601		—		—	—	—
Cut „ 14	22		14116	1577	12689	—	5706	5707
Bank „ 15	25	8[illegible]2		—	—	—	—	—
Cut „ 15	34	—	756	756	—	—	—	756
Bank „ 16	42	2219	—	—		20[illegible]8	—	—
Cut „ 16	44½	—	191	191			—	191
Bank „ 17	50½	1832	—	—	—	—	—	—
Cut „ 17	54½	—	136[illegible]	136[illegible]	—	—	—	1360
Bank „ 18	57½	[illegible]26		—				—
Cut „ 18	6[illegible]	—	7411	6744	2519	—	3705	3706
Bank „ 19	69½	3666	—	—	—	—	—	
Cut „ 19	77		8779	[illegible]673	—	—	4389	4390
Bank „ 20	5 3	9[illegible]75			—	—	—	—
Cut „ 20	7½		7874	11811	—	—	7874	—
Bank „ 21	8½	11	—			—		—
Cut „ 21	10½		1094	1641	—	—	1094	—
Bank „ 22	12½	3[illegible]92		—			—	—
Cut „ 22	16½		2308	1716	1696		2308	—
Bank „ 23	17½	531	—	—	—	—	—	—
Cut „ 23	3[illegible]		2[illegible]1	2[illegible]0	131	—	2211	—
Bank „ 24	4[illegible]	159	—			—	—	—
Cut „ 24	5[illegible]		[illegible]	571	—	—	1028	1029
Bank „ 25	5[illegible]	[illegible]		—			—	—
Cut „ 25	6[illegible]	—	[illegible]	4[illegible]	8213	—	12435	—
Tunnel (900 ft. long)								
Cut No. 25A	[illegible]	—	101[illegible]	[illegible]019	—	—	1013	—
Bank „ 26	[illegible]	[illegible]91		—	—	—		—
Cut „ 26	[illegible]		108	[illegible]	—	—	108	—
Bank „ 27	6[illegible]	[illegible]		—		—	—	—
Cut „ 27	6		[illegible]	279	—	—	184	—
Bank „ 28	6[illegible]	1[illegible]		—		—	—	—
Cut „ 28	6[illegible]		179[illegible]	11[illegible]8	15[illegible]4	—	1795	—
Bank „ 29	67½	77	—	—	—		—	—
Cut „ 29	67½		22	33	—	—	22	—
Bank „ 30	68½	191	—	—	—	—	—	—
Cut „ 30	69½	—	915	68	1304	—	915	—
Tunnel.								
Cut No. 30A	72½		1479	422	1796	—	1479	—
Bank „ 31			—	—	—	—	—	—
Cut „ 31	77	—	2129	8193	—	—	2129	—
Bank „ 32	77½	72	—	—	—	—	—	—
Cut „ 32	6 3	—	7282	10923	—	—	7282	—
Bank „ 33	5	477	—	—	—	—	—	—
Cut „ 33	8½	—	4326	6489	—	—	4326	—
Bank „ 34	13½	3979	—	—	—	8069	—	—
Cut „ 34	17½	—	1865	2782	—	—	1855	—

F.—continued.

From	To	Contents of Bank.	Contents of cutting	Volume to Bank.	Volume to spoil.	Bank from side cutting.	Rock.	Earth.
	m. c.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.
Bank No. 35	6 18¼	3351	—	—	—	—	—	—
Cut „ 35	22¼	—	6206	6957	2352	—	6206	—
Bank „ 36	25½	2124	—	—	—	—	—	—
Cut „ 36	26½	—	152	228	—	—	152	—
Bank „ 37	30	1710	—	—	—	—	—	—
Cut „ 37	35¾	—	6032	9048	—	—	6032	—
Bank „ 38	38¾	11669	—	—	—	—	—	—
Cut „ 38	39½	—	1058	1587	—	—	1058	—
Tunnel (1034 to bank.)								
Cut „ 38A	59½	—	4786	7179	—	—	4786	—
Bank „ 39	63½	3716	—	—	—	—	—	—
Cut „ 39	65¾	—	2072	2846	—	—	1548	524
Bank „ 40	74½	12852	—	—	—	—	—	—
Cut „ 40	7 0	—	11287	16930	—	—	11287	—
Bank „ 41	4¾	5729	—	—	—	—	—	—
Cut „ 41	7¼	—	744	823	—	—	558	186
Bank „ 42	12½	1100	—	—	—	—	—	—
Cut „ 42	14¾	—	1265	1897	—	—	1265	—
Bank „ 43	21½	40776	—	—	—	20579	—	—
Cut „ 43	30½	—	11915	17872	—	—	11915	—
Bank „ 44	37¼	4109	—	—	—	—	—	—
Cut „ 44	38	—	162	243	—	—	162	—
Bank „ 45	38¾	90	—	—	—	—	—	—
Cut „ 45	39½	—	89	36	98	—	89	—
Bank „ 46	39¾	36	—	—	—	—	—	—
Cut „ 46	47¾	—	7467	11200	—	—	7467	—
Bank „ 47	49	140	—	—	—	—	—	—
Cut „ 47	53	—	3985	5977	—	—	3985	—
Bank „ 48	56¾	31205	—	—	—	11296	—	—
Cut „ 48	58	—	1915	2872	—	—	1915	—
Tunnel (1759 to bank)								
Cut „ 48A	65	—	6566	9849	—	—	6566	—
Bank „ 49	70¾	11608	—	—	—	—	—	—
Cut „ 49	74¼	—	1243	1864	—	—	1243	—
Bank „ 50	77½	1934	—	—	—	70	—	—
Cut „ 50	8 2½	—	6676	10014	—	—	6676	—
Bank „ 51	5¾	10042	—	—	—	—	—	—
Cut „ 51	8½	—	530	754	41	—	530	—
Bank „ 52	11¼	726	—	—	—	—	—	—
Cut „ 52	16¾	—	3767	3331	2319	—	3767	—
Bank „ 53	20	8331	—	—	—	—	—	—
Cut „ 53	25¼	—	1535	2302	—	—	1535	—
Bank „ 54	26½	7210	—	—	—	—	—	—
Cut „ 54	31	—	3333	4999	—	—	3333	—
Bank „ 55	39¾	14131	—	—	—	—	—	—
Cut „ 55	47½	—	8010	4040	5975	—	8010	—
Section No. 2.								
Demodara to Idulgashena.								
Cut No. 52	5 27	—	3570	5355	—	—	3570	—
Bank „ 51	23	9180	—	—	—	—	—	—
Cut „ 51	12½	—	43444	59715	—	—	32583	10861
Bank „ 50	2½	59.71	—	—	—	—	—	—
Cut „ 50 A ...	0½	—	4826	6964	2671	—	2413	2413
Tunnel 5445 (volume to bank)								
Cut No. 50	4 73¾	—	2865	3581	—	—	1432	1433
Bank „ 49	66	25 63	—	—	—	6280	—	—
Cut „ 49	63	—	6922	8652	—	—	3461	3461
Bank „ 48	60¼	1005	—	—	—	—	—	—
Cut „ 48 A	59¼	—	1928	2410	—	—	964	964
Tunnel (1243 to bank)								
Cut „ 48	52	—	1631	2042	—	—	817	817
Bank „ 47 A	51	3285	—	—	—	—	—	—
Bridge.								
Bank „ 47	48½	2289	—	—	—	—	—	—
Cut „ 47	47	—	1245	1711	—	—	933	312
Bank „ 46	46	2329	—	—	—	—	—	—
Cut „ 46 A	44½	—	3916	2907	2469	—	2932	978
Tunnel.								
Cut. „ 46	39	—	3257	1350	3128	—	2442	815
Bank „ 45	37¼	1350	—	—	—	—	—	—
Cut „ 45	35½	—	1394	815	1276	—	1394	—
Bank „ 44	32	815	—	—	—	—	—	—
Cut „ 44	27¼	—	9629	2720	10519	—	7221	2408

RAILWAY EXTENSION.

FURTHER PAPERS.

NAKU-OTA TO HAPUTALE.

F.—*continued.*

From	To	Contents of Bank.	Contents of cutting	Volume to Bank.	Volume to spoil.	Bank from side cutting.	Rock.	Earth.
	M. c.	cub. yds	cub. yds.	cub. yds.	cub. yds	cub. yds.	cub. yds.	cub. yds.
Bank No. 43	4 25	2720	—	—	—	—	—	—
Cut " 43	20½	—	2673	627	3048	—	2004	669
Bank " 42	18¾	627	—	—	—	—	—	—
Cut " 42	18¼	—	13	13	—	—	—	13
Bank " 41	17	217	—	—	—	—	—	—
Cut " 41	2	—	12513	8038	7353	—	6156	6157
Bank " 40	3 78	6524	—	—	—	—	—	—
Cut " 40	75½	—	3554	4896	—	—	2665	889
Bank " 39	69¼	6412	—	—	—	—	—	—
Cut " 39	67¾	—	304	456	—	—	304	—
Bank " 38	66¾	240	—	—	—	—	—	—
Cut " 38	63½	—	2542	3813	—	—	2542	—
Bank " 37	56	4584	—	—	—	—	—	—
Cut " 37	51½	—	2145	2145	—	—	—	2145
Bank " 36	46½	3888	—	—	—	—	—	—
Cut " 36 A	45	—	2998	2514	1608	—	2249	749
Tunnel								
Cut " 36	40½	—	1317	1975	—	—	1317	—
Bank " 35 A	37½	3172	—	—	—	—	—	—
Bank " 35	35¼	1864	—	—	—	—	—	—
Cut " 35	31½	—	2725	3399	688	—	2725	—
Bank " 34	32¾	318	—	—	—	—	—	—
Cut " 34 A	31½	—	1110	—	1665	—	1110	—
Tunnel								
Cut " 34	25	—	5965	6798	1403	—	4473	1492
Bank " 33	21¾	6798	—	—	—	—	—	—
Cut " 33 A	18	—	14587	—	21880	—	7293	7294
Tunnel								
Cut " 33	14	—	3548	5318	—	—	1771	1771
Bank " 32	10½	6086	—	—	—	—	—	—
Cut " 32 A	9¾	—	1171	773	983	—	1171	—
Tunnel								
Cut " 32	2 73⅜	—	13078	786	18831		13078	—
Bank " 31 A	73⅛	786	—	—	—	—	—	—
Bridge								
Bank " 31	71½	611	—	—	—	—	—	—
Cut No. 31 A	69½	—	1328	611	1381	—	1328	—
Tunnel (8070 volume to bank)								
Cut No. 31	60¾	—	786	1179	—	—	786	—
Bank " 30	58½	9964	—	—	—	268	—	—
Cut " 30	57½	—	194	291	—	—	194	—
Bank " 29	56½	408	—	—	—	—	—	—
Cut " 29	54½	—	376	564	—	—	376	—
Bank " 28	51¾	1716	—	—	—	—	—	—
Cut " 28 A	51	—	1640	1716	744	—	1640	—
Tunnel								
Cut " 28	44½	—	1878	2817	—	—	1878	—
Bank " 27	40½	3558	—	—	—	—	—	—
Cut " 27	36¾	—	4244	1321	5045	—	4244	—
Bank " 26	34¾	580	—	—	—	—	—	—
Cut " 26	25½	—	21659	29780	—	—	16243	5416
Bank " 25	21½	38744	—	—	—	—	—	—
Cut " 25	15¾	—	11716	15670	1904	—	11716	—
Bank " 24	12¾	6706	—	—	—	—	—	—
Cut " 24	11½	—	1049	1573	—	—	1049	—
Bank " 23	9½	1606	—	—	—	—	—	—
Cut " 23	4½	—	3922	4852	1031	—	3922	—
Bank " 22	1	4819	—	—	—	—	—	—
Cut " 22	1 78¾	—	1881	1602	1119	—	1881	—
Bank " 21 A	76	1602	—	—	—	—	—	—
Cut " 21 A	75¼	—	—	966	1449	—	966	—
Tunnel								
Cut " 21	67½	—	792	493	755	—	792	—
Bank " 20	65½	2495	—	—	—	—	—	—
Cut " 20 A	64½	—	1308	1962	—	—	1308	—
Tunnel								
Cut " 20	56¾	—	6442	2862	6009	—	4830	1613
Bank " 19	53	6009	—	—	—	—	—	—
Cut " 19	48½	—	5857	8787	—	—	5857	—
Bank " 18	44	23883	—	—	—	—	—	—
Cut " 18	33	—	12739	17415	108	—	9553	3186
Bank " 17	31½	3502	—	—	—	—	—	—
Cut " 17	26¾	—	4078	6607	—	—	3058	1020
Bank " 16	22¾	4621	—	—	—	—	—	—
Cut " 16	18½	—	7850	4666	6027	—	5687	2163

F.—*continued.*

From	To	Contents of Bank.	Contents of cutting.	Volume to Bank.	Volume to spoil.	Bank from side cutting.	Rock.	Earth.
	m. c.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.
Bank No. 15	1 14¼	4331	—	—	—	—	—	—
Cut „ 15 A	9	—	11162	—	13952	—	5581	5581
Tunnel								
Cut „ 15	0 79¾	—	9074	2035	9307	—	4537	4537
Bank „ 14	76¾	2035	—	—	—	—	—	—
Cut „ 14	74½	—	855	119	949	—	427	428
Bank „ 13	73¾	119	—	—	—	—	—	—
Cut „ 13	71	—	3094	333	3534	—	1547	1547
Bank „ 12	70½	333	—	—	—	—	—	—
Cut „ 12	67½	—	1221	1526	—	—	610	611
Bank „ 11	66½	3247	—	—	—	—	—	—
Cut „ 11	56	—	14980	10427	8548	—	7990	6990
Bank „ 10	50¾	8706	—	—	—	—	—	—
Cut „ 10	47	—	2074	2784	92	—	1605	469
Bank „ 9	43¼	2784	—	—	—	—	—	—
Cut „ 9	42	—	336	32	430	—	252	84
Bank „ 8	41½	32	—	—	—	—	—	—
Cut „ 8	37¼	—	4603	5340	988	—	3451	1152
Bank „ 7	34½	5340	—	—	—	—	—	—
Cut „ 7	33¾	—	51	43	8	—	—	51
Bank „ 6	33½	43	—	—	—	—	—	—
Cut „ 6	30½	—	6196	1800	5945	—	3098	3098
Bank „ 5	29	1800	—	—	—	—	—	—
Cut „ 5	24¾	—	2633	670	2621	—	1316	1317
Bank „ 4	23	670	—	—	—	—	—	—
Cut „ 4	18	—	1350	585	990	—	450	900
Bank „ 3A	16	585	—	—	—	—	—	—
Cut „ 3A	14	—	157	59	124	—	52	105
Bank „ 3	16	59	—	—	—	—	—	—
Cut „ 3	11¼	—	105	157	—	—	105	—
Bank „ 2	10½	294	—	—	—	—	—	—
Cut „ 2	7½	—	2081	1553	875	—	694	1387
Bank „ 1	4	1416	—	—	—	—	—	—
Cut „ 1	0 0	—	1131	—	to station ground 1319	—	377	754
Section No. 3.								
Idulgashena to Haputale.								
Bank „ 1	0 5¾	1349	—	—	—	—	—	—
Cut „ 1	11	—	1174	1369	—	—	391	783
Bank „ 2	13	106	—	—	—	—	—	—
Cut „ 2	14½	—	157	86	to station ground 71	—	—	157
Bank „ 3	15¾	45	—	—	—	—	—	—
Cut „ 3	19¾	—	1802	45	to station ground 2057	—	601	1201
Bank „ 4	25	1369	—	—	—	—	—	—
Cut „ 4	34½	—	9264	6725	to station ground 7171	—	9264	—
Bank „ 5	38½	5356	—	—	—	—	—	—
Cut „ 5	44¾	—	14202	13572	2997	—	4734	9468
Bank „ 6	50	12786	—	—	—	—	—	—
Cut „ 6	52½	—	246	287	—	—	82	164
Bank „ 7	55½	262	—	—	—	—	—	—
Cut „ 7	56¾	—	185	216	—	—	62	123
Bank „ 8	58	287	—	—	—	—	—	—
Cut „ 8	60	—	136	158	—	—	45	91
Bank „ 9	63	1492	—	—	—	—	—	—
Cut „ 9	64	—	396	594	—	—	396	—
Bank „ 10	67½	2042	—	—	—	—	—	—
Cut „ 10	70½	—	2561	2327	651	—	854	1707
Bank „ 11	72½	285	—	—	—	—	—	—
Cut „ 11	73½	—	70	70	—	—	—	70
Bank „ 12	75	98	—	—	—	—	—	—
Cut „ 12	77	—	452	452	—	—		452
Bank „ 13	1 1¾	831	—	—	—	—	—	—
Cut „ 13	3½	—	332	498	—	—	332	—
Bank „ 14	6½	820	—	—	—	—	—	—
Cut „ 14	7½	—	167	250	—	—	167	—
Bank „ 15	8½	121	—	—	—	—	—	—
Cut „ 15	13½	—	14338	5285	11442	—	4779	9559
Bank „ 16	17¼	1658	—	—	—	—	—	—
Cut „ 16	18½	—	623	727	—	—	208	415

RAILWAY EXTENSION.

FURTHER PAPERS.

NANAIMO TO BARKLEY.

F.—*continued.*

From	To	Contents of bank	Content of cutting.	Volume to bank.	Volume to spoil.	Bank from side cutting.	Rock	Earth.
	m. c.	c. yds	c. yds.	c. yds.	ci yds.	c. yds.	c. yds.	c. yds.
Bank No 17	1 23	7529	—	—	—	—	—	—
Cut „ 17	27¾	—	3403	3970	—	—	1134	2269
Bank „ 18	2-¼	56	—	—	—	—	—	—
Cut „ 18	29	—	82	123	—	—	82	—
Bank „ 19	29¾	64	—	—	—	—	—	—
Cut „ 19	31	—	109	163	—	—	109	—
Bank „ 20	32¾	328	—	—	—	—	—	—
Cut „ 20	33¼	—	41	61	—	—	41	—
Bank „ 21	34¾	94	—	—	—	—	—	—
Cut „ 21	37	—	546	819	—	—	546	—
Bank „ 22	40¼	843	—	—	—	—	—	—
Cut „ 22	41¼	—	289	434	—	—	289	—
Bank „ 23	47	3517	—	—	—	—	—	—
Cut „ 23	61	—	13409	15643	—	—	4469	8940
Bank „ 24	69¾	45041	—	—	—	21088	—	—
Cut „ 24	77¼	—	11565	13493	—	—	3855	7710
Bank „ 25	2 1½	2821	—	—	—	—	—	—
Cut „ 25	3¼	—	1413	1413	—	—	—	1413
Bank „ 26	4	648	—	—	—	—	—	—
Cut „ 26	8¼	—	3317	3870	—	—	1106	2211
Bank „ 27	11¼	5712	—	—	—	—	—	—
Cut „ 27	16¼	—	10196	11896	—	—	3399	6797
Bank „ 28	20¼	7791	—	—	—	—	—	—
Cut „ 28	23¼	—	3228	3228	—	—	—	3228
Bank „ 29	25¾	12355	—	—	—	—	—	—
Cut „ 29	31	—	14684	14684	—	—	—	14684
Bank „ 30	31¾	60	—	—	—	—	—	—
Cut „ 30	33¾	—	459	459	—	—	—	459
Bank „ 31	39¼	22683	—	—	—	3623	—	—
Cut „ 31	44	—	2239	2239	—	—	—	2239
Bank „ 32	45	2118	—	—	—	—	—	—
Cut „ 32	49¼	—	10720	10720	—	—	—	10720
Bank „ 33	52¼	15331	—	—	—	—	—	—
Cut „ 33	61¼	—	42586	42586	—	—	—	42586
Bank „ 34	66¼	11338	—	—	—	—	—	—
Cut „ 34	68¼	—	510	510	—	—	—	510
Bank „ 35	70¼	533	—	—	—	—	—	—
Cut „ 35	75	—	12212	12212	—	—	—	12212
Bank „ 36	79¼	30248	—	—	—	2142	—	—
Cut „ 36	79¾	—	23	23	—	—	—	23
Bank „ 37	3 0¼	722	—	—	—	699	—	—
Cut „ 37	1¼	—	235	235	—	—	—	235
Bank „ 38	4¾	2863	—	—	—	—	—	—
Cut „ 38	11	—	11897	13889	—	—	3966	7931
Bank „ 39	15½	15108	—	—	—	—	—	—
Cut „ 39	22	—	7495	7495	—	—	—	7495
Bank „ 40	23	76	—	—	—	—	—	—
Cut „ 40	5¼	—	2023	2023	—	—	—	2023
Bank „ 41	28¼	7950	—	—	—	2384	—	—
Cut „ 41	28¾	—	37	37	—	—	—	37
Bank „ 42	30	2004	—	—	—	682	—	—
Cut „ 42	31¾	—	2911	3395	—	—	970	1941
Bank „ 43	32¼	243	—	—	—	—	—	—
Cut „ 43	34¼	—	554	646	—	—	185	369
Bank „ 44	37¼	3792	—	—	—	—	—	—
Cut „ 44	40¼	—	1148	1339	—	—	383	765
Bank „ 45	43¼	2948	—	—	—	—	—	—
Cut „ 45	48	—	11998	11998	—	—	—	11998
Bank „ 46	48¾	105	—	—	—	—	—	—
Cut „ 46	62¾	—	40714	4 714	—	—	—	40714
Bank „ 47	67¼	54095	—	—	—	—	—	—
Cut „ 47	70	—	10396	10395	343	—	—	10396
Bank „ 48	76	4860	—	—	—	—	—	—
Cut „ 48	77¾	—	859	1002	—	—	286	573
Bank „ 49	4 0¼	1759	—	—	—	—	—	—
Cut „ 49	5¼	—	3636	4242	—	—	1212	2424
Bank „ 50	12¼	6080	—	—	—	—	—	—
Cut „ 50	17¾	—	6314	2124	5245	—	2105	4209
Bank „ 51	18¾	286	—	—	—	—	—	—
Cut „ 51	19½	—	66	80	26	—	—	56
Bank „ 52	20	30	—	—	—	—	—	—
Cut „ 52	24¼	—	8068	9205	207	—	2689	5379
Bank „ 53	30	9205	—	—	—	—	—	—
Cut „ 53	31¾	—	367	68	to station ground 299	—	—	367
Bank „ 54	32½	68	—	—	—	—	—	—

F.—*continued.*

From		To		Contents of Bank.	Contents of cutting.	Volume to Bank.	Volume to spoil.	Bank from side cutting.	Rock	Earth.
		m.	c.	c. yards.	c. yards.	c. yards.	c. yards.	c. yards.	c. yards.	c. yards.
Cut	No. 54	4	40	—	22408	9673	to station ground 12735	—	—	22408
Bank	„ 55		45	9673	—	—	—	—	—	—
Cut	„ 55		48¼	—	2097	91	to station ground 2356	—	699	1398
Bank	„ 56		48½	91	—	-	—	—	—	—
Cut	„ 56		56	—	4893	5184	to station ground 524	—	1631	3262
Bank	„ 57		61	6181		—	—	—	—	-
Cut	„ 57		65	—	1129	1129	—	—	—	1129
Bank	„ 58		69	256	—		—	—	—	-
Cut	„ 58		70	—	134	134	—		-	134
Totals, cubic yards...			—	939,759	846,270	830,578	227,530	89,546	455,721	390,549

NOTE.—In the foregoing table rock spoil has been calculated with an increase of 50 per cent. in bulk; thus 20,000 cubic yards of rock cutting carried to spoil has been entered as 30,000 cubic yards of spoil.

The sum of the totals in columns "Volume to bank" and "Bank from side cutting" should equal the total in the column "Contents of bank." Any deficiency is accounted for by the fact that in some cases material from tunnels has been placed in embankment.

F. J. WARING, Assoc. Inst. C.E.,
Senior Assistant Engineer.

VII.

ECCLESIASTICAL SUBSIDIES.

RETURN to an ORDER of the LEGISLATIVE COUNCIL of CEYLON, dated 5th December, 1877.

"That a return be prepared shewing in detail the expenditure of the Ecclesiastical Department of the Government of Ceylon for the year 1876, including the name, official style and designation, ecclesiastical connection, salary, and allowances of each Chaplain or Minister in the service of Government, with the average attendance of the Civil and Military Servants of the Queen, at the religious services conducted by him."

(The Hon. W. W. Mitchell.)

Ordered by His Excellency the Governor to be Printed.

COLOMBO:

WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

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PAPERS RELATING TO ECCLESIASTICAL SUBSIDIES.

No. 1.

Governor Sir J. R. LONGDEN, K.C.M.G., to the Right Rev. the LORD BISHOP of Colombo.

Queen's House,
Colombo, 8th December, 1877.

No. 33.

MY LORD,—I HAVE the honor to transmit to you copy of a resolution of the Legislative Council, and to request that you will have the goodness to furnish me, at your early convenience, with a return of the nature therein indicated.

I have, &c.,
J. R. LONGDEN,
Governor.

Resolution referred to.

"THAT a return be prepared shewing in detail the expenditure of the Ecclesiastical Department of the Government of Ceylon for the year 1876, including the name, official style and designation, ecclesiastical connection, salary, and allowances of each Chaplain or Minister in the service of Government, with the average attendance of the Civil and Military Servants of the Queen at the religious services conducted by him."

No. 2.

No. 2.

The Ven'ble WALTER E. MATTHEW, Archdeacon and Commissary, to Governor Sir J. R. LONGDEN, K.C.M.G.

No. 1.

Kandy, 7th June, 1878.

SIR,—I HAVE the honor, in accordance with Your Excellency's letter No. 33 of 8th December, 1877, to forward the information called for by the Hon'ble the Legislative Council, so far as it is in my power to supply it. I have applied to the clergy and catechists, who receive aid from Government, for the statistics required by the Legislative Council, in reference particularly to the attendance of the Civil and Military Servants of the Queen at the religious services conducted by them during the year 1876, but regret to have to inform Your Excellency that, while the total number of attendances has been registered and already submitted to Government, and while the number of the soldiers attending is, I believe, recorded by the Military authorities, no separate record has, in any instance, been kept of the attendance of Civil Servants of the Crown, as distinguished from other subjects of Her Majesty.

I should add, that it was no part of the duty of the clergy and catechists to observe or register such a distinction.

I regret, therefore, that it is impossible for me in this particular to supply the statistics called for. In order, as far as possible, to remedy this defect, I have ventured, in another letter to give, from other sources, some information on the point.

I have, &c.,
WALTER E. MATTHEW,
Archdeacon and Commissary.

ECCLESIASTICAL RETURN for the Year 1876.

Name, official style, and designation.			Yearly Salary. Fixed Rs.	Cts.	Provisional Rs.	Cts.	Allowances. Rs.	Cts.
Ven. W. E. Matthew, Archdeacon and Colonial Chaplain, Kandy			7,000	0	—		450	0
Rev. W. F. Kelly, Colonial Chaplain, St Peter's Colombo		...	6,000	0	—		650	0
„ H. W. Meeres,	do	Holy Trinity, do.	6,000	0	—			
„ S. W. Dias,	do.	All Saints' do	4,000	0	—		120	0
„ C. W. de Hoedt,	do.	St. Paul's, do	3,000	0	—		120	0
„ S. D. J. Ondaatjie,	do.	St. Thomas' do.	2,500	0	—		120	0
„ C. Senanayaka,	do.	Galkissa & Moratuwa	1,250	0	—		84	0
„ J. Bamforth,	do.	All Saints,' Galle	7,000	0	—		250	0
„ C. A. Koch,	do.	Jaffna	3,000	0	—		250	0
„ W. Ellis,	do.	Nuwara Eliya	2,000	0	—		150	0
„ F. Auchmuty,	do.	Pussellawa	—	0			2,000	0
„ W. Herat,	do.	Matale	—		—		750	0
„ H. C. Hancock,	do.	Kurunegala	—		—		1,500	0
„ G. H. Gomes,	do.	Badulla			—		500	0
„ A. Mendis,	do.	Koralawella & Moratuwa	1,250	0	—		156	0
„ R. Edwards,	do.	Mannar	—		750	0	—	
„ C. David,	Catechist	Colombo	600	0	—		—	
„ A. Vetheran,	do.	do.	600	0	—		—	
„ F. D. Mel,	do.	Panadure	300	0	—		—	
„ F. D. Edirisinhe,	do.	Hambantota	300	0	—		—	
„ D. Somanader,	do.	Batticaloa	300	0	—		—	
„ T. Mortimer,	do.	Puttalam	—		240	0	—	
Mr. H. D. Herft,	do.	St. Paul's, Colombo	300	0	—		—	
„ C. Cooray,	do.	Kohilawatta	360	0	—		—	
„ H. Wikkramanayaka,	do.	Slave Island, Colombo	360	0	—		—	
„ W. H. Malleappah,	do.	St. Thomas,' Colombo	200	0	—		—	
„ P. M. Ondaatjie,	do.	Chilaw	270	0	—		—	
„ J. Henderson,	do.	Kalpitiya	180	0	—		—	
„ K. E. Tambimuttoo,	Religious Instructor of the Veddahs		240	0	—		—	

June 7th, 1878.

WALTER E. MATTHEW,
Commissary.

ECCLESIASTICAL SUBSIDIES.

PAPERS.

No. 3.

No. 3.

The Ven'ble WALTER E. MATTHEW, Archdeacon and Commissary, to Governor Sir J. R. LONGDEN, K.C.M.G.

No. 2. Kandy, 7th June, 1878.

SIR,—I VENTURE to submit a few facts which form, I think, a virtual answer to the requirement of the Legislative Council, referred to in my letter No. 1 of this date, and which may serve as some substitute for the statistics which I am unable to supply.

The question implied in the Hon'ble Council's request for these statistics is, I suppose, this: In what proportion does it appear that the benefits of the Establishment are enjoyed by the Civil and Military Servants of the Crown as compared with Her Majesty's other subjects? Or, with what truth can it be said that the Establishment exists for the benefit of the Civil and Military Servants of the Crown?

The numbers of the Military amount altogether to only 1,018, and although of this number 651 attend the services of the Church of England, yet they form, obviously, a small proportion. Nor are they dependent on the Establishment for the ministrations of the Chaplains (four in number) who officiate for them, since these are independently paid (though with salaries which would not alone support a minister) by the Military authorities, and may continue on the Establishment though ceasing to "officiate for troops," as the Chaplain of Nuwara Eliya has lately done, or may "officiate for troops" without being Colonial Chaplains or catechists, as is the case with the clergyman officiating at Trincomalee.

Hence it is clear that it is only to a small extent true, that those for whose benefit the Establishment exists are the Military.

As to the Civil Servants of the Crown, it is not clear in what sense the expression is intended. If under it are included the various clerks and messengers and the Mudaliyars and Ratemahatmeyas, their number is very great and the reckoning extremely difficult; if only the members of the Civil Service proper are intended, they form again but a small proportion of our congregations, though very nearly all of them attend our services.

But the large majority of the congregations of the Establishment are natives of the Island. That of St Peter's Church, Colombo, is the only one in which the majority are English; in Holy Trinity, Colombo, all are Burghers; in Kandy, Galle, and Jaffna the large majority are Burghers; in St. Paul's, Colombo, all are Portuguese, while the three Sinhalese and the Tamil chaplaincies speak for themselves. In fact of the sixteen clergy, nine and all the catechists are natives of the Island, and most of these minister only in the native tongues.

It will thus, I think, be evident that the benefits of the Establishment are enjoyed in by far the largest proportion by the Burghers of the principal towns, and by the old established Sinhalese congregations in the Western Province; in short, by those who enjoyed the benefits of an Establishment under the Dutch Government.

And I venture to submit, Sir, that these, who receive no pay from the Crown, but have lost, except in so far as we continue it, the Establishment which they formerly enjoyed under the Dutch, are the very classes who deserve the tenderest consideration in this matter at the hands of Her Majesty's Government.

I have, &c.,

WALTER E. MATTHEW,
Archdeacon and Commissary.

No. 4.

No. 4.

ST. ANDREW'S PRESBYTERIAN CHURCH, COLOMBO.

RETURN of Civil and Military having sittings in Church during 1877.

Nine Civil Servants—From twelve to twenty-six Military.

JO. BURNET,
Chaplain, St. Andrew's.

No. 5.

No. 5.

SCOTS KIRK, KANDY.

Name	John Watt.
Official Designation	Colonial Chaplain, Scots Kirk, Kandy.
Ecclesiastical connection	Church of Scotland.
Salary	Rs. 4,500.
Allowances	Nil.
Attendance of Military in 1876 ...	4
Do. of Civil Servants of the Queen	14.

These numbers are exclusive of wives and families.

No. 6.

Dutch Presbyterian Church, Colombo.

Church where situated and number of sittings.	Name of Minister and value of Living.	Average Attendance.	Remarks.
Dutch Presbyterian Church, Wolfendahl Hill, Colombo, 1,000	Rev. Samuel Lindsay, Colonial Chaplain of the Dutch Presbyterian Church, 4,500 rupees.	350, on special occasions 800 to 1,000 attend.	No Military, and only one Civil Servant of the Queen connected with the congregation. A large proportion of the members are clerks in the various Government Offices, with their families

No. 7.

Dutch Presbyterian Church, Galle.

1876.	Ecclesiastical.	Return.	Remarks.
Chaplaincy Dutch Presbyterian Church, Galle.	Chaplain, the Rev. Henry Lumsden Mitchell, M.A., Minister of the Church of Scotland The Rev. John Crawford, M.A., B.D., Minister of the Church of Scotland, acting from 30th October, 1876.	Civil servants attending about forty. — Independent of widows and families of deceased servants of Government, almost all the forty have families. There is no means of making a full return.	Military attending — Three in November and December; probably more during the year. (I think that some one said so to me — J. C.)

I certify this return to be, so far as I know, a true return.

JOHN CRAWFORD,
Acting Colonial Chaplain, Dutch Church, Galle.

No. 3.

Return shewing the Expenditure of the Ecclesiastical Department of the Government of Ceylon for the Year 1876.

Name.	Official style and designation	Ecclesiastical connection.	Fixed salaries		Provisional Salaries		Allowances.		Donation.	Transport.		Total.
			Amount voted	Amount expended.	Amount voted	Amount expended	Amount voted.	Amount expended.		Amount voted.	Amount expended.	
			Rs	Rs Cts	Rs.	Rs	Rs.	Rs. Cts.		Rs.	Rs. Cts.	Rs. Cts.
R. S. Copleston ..	Bishop of the Diocese	...	20,000	19,139 14	...	...	...	...	...	5,000	3,090 57	22,228 71
R. H. Morgan ..	Registrar	..	1,000	1,000 0	...	..	.	.	...	...	...	1,000 0
W. E. Gomes ..	Clerk ...	...	500	500 0	100	100	.	...	..	...	...	600 0
—	Three messengers ..	...	450	425 0	..	..	...	...	...	...	...	425 0
W. E. Matthew ..	Archdeacon and Colonial Chaplain ...	St. Paul's Church, Kandy	6,000	5,967 72	..	...	1,450	1,349 38	...	...	...	7,317 10
W. F. Kelly ...	Colonial Chaplain ..	St. Peter's Church, Colombo ...	6,000	6,000 0	..	...	650	650 0	.	...	...	6,650 0
H. W. Meeres .	Do. ...	Trinity Church, do.	6,000	6,000 0	...	...	...	...	...	...	..	6,000 0
S. W. Dias ...	Sinhalese Colonial Chaplain ..	All Saints Church, do. ...	4,000	4,000 0	...	.	120	120 0	.	..	...	4,120 0
C. W. DeHoedt ..	Portuguese do. ..	St. Paul's do do. ...	3,000	3,000 0	..	..	120	120 0	...	...	..	3,120 0
S. D. J. Ondaatjie ...	Tamil do. ..	St. Thomas' do. do. ...	2,500	2,500 0	..	...	120	120 0	.	...	...	2,620 0
C. Senanayaka ..	Sinhalese do. ...	Galkissa and Milagiriya Churches ...	1,250	1,250 0	.	..	84	84 0	..	..	.	1,334 0
A. Mendis ...	Do do. ..	Moratuwa and Korlawella ..	1,250	1,250 0	...	.	156	156 0	..	...	...	1,406 0
J. Bamforth .	Colonial Chaplain	All Saints', Galle	7,000	7,000 0		..	250	249 96	...	...	...	7,249 96
C. A. Koch ...	Do	Christ Church, Jaffna	3,000	3,000 0		..	250	249 96	...		..	3,249 96
Wm. Ellis ...	Do. ..	Nuwera Eliya Church ..	2,000	2,000 0	...	...	150	150 0	...	..	...	2,150 0
C. J. M. Ogilvie ..	Catechist ..	Ratnapura Church .	480	21 93	...	...	...	.	...	...	...	21 93
C. David ...	Do. ..	Kotaiena and Kehelwatta Churches	600	600 0	...	...	..	...	...	...	...	600 0
A. Vethecan ...	Do ...	Jail and Govt Civil Hospital, &c. ...	600	600 0	...	..	..	..	..	...	...	600 0
F. De Mel ..	Do. ..	Pasdun Church ...	300	300 0	..	..	...	..	...	...	..	300 0
F. D. Ediri-inghe ..	Do ..	Hambantota do. ...	300	300 0		..	...	...		...	...	300 0
D. Somanader ...	Do. ..	Batticaloa do. .	300	300 0	.	.	...	.	..		...	300 0
H. D. Herft .	Do. ..	Trincomalee do. .	300	300 0	...	...	...	...	.	..	...	300 0
C. Cooray ...	Do ..	Kohitawatta do. ..	360	360 0	..	...		...	..	..	...	360 0
H. Wickremesinghe ...	Do. ...	Slave Island do. ..	360	360 0	...	..	..	...	..	...	...	360 0
J. Henderson ...	Do. ...	Kalpitiya do. ...	180	83 22	..	...	...	..	...	...	...	83 22
W. H. Maleappa ..	Do. ..	St. Thomas' do ..	200	200 0	..	...	...		...	..	..	200 0
P. M. J. Ondaatjie ...	Do. ..	Chilaw do. ...	270	270 0	..	..	...	..	...	...	...	270 0
J. Burpett ...	Colonial Chaplain ...	St. Andrew's Church, Colombo ...	4,500	4,500 0	...	...	...	..	..	...	...	4,500 0
G. B. Rulach ..	Acting do. ...	Wolfendahl do. do ...	4,500	4,250 0	..	...	...	...		...		4,250 0
H. L. Mitchell ...	Colonial Chaplain ..	Dutch Presbyterian Church, Galle ...	4,500	4,441 12	...	...	..	.	.	.	..	4,441 12
J. Watt ..	Do. ..	Scotch Kirk, Kandy ...	4,500	4,500 0	...	..	..	.	...	..	...	4,500 0
H. E. Tambimuttoo ...	Religious Instructor to the Veddahs ...	Trincomalee ...	..	...	240	240	..	...	...	..	...	240 0
T. Mortimer ..	Catechist ..	Puttalam Church ..	...	...	240	240	...	..	...	...	...	240 0
R. Edwards ...	Chaplain ...	Mannar do. ..	..	...	750	750	..		...	...	..	750 0
H. T. Koch ..	Catechist ...	Jaffna do. ..	..	...	360	360	...	...	.	...	...	360 0
G. H. Gomes ...	Clergyman* ..	St. Mark's Church, Badulla ...	..	..	..	...	500	499 92	...	.	...	499 92
W. Herat .	Do. ..	Matale do. ...	...		..		1,500	750 0	..	...	...	750 0
F. Anthonty ...	Do. ..	Pussellawa do ...	...	...	...	...	2,000	1,916 59	..	..	...	1,916 59
Charles MacLean ..	Presbyterian Minister	Kandyan Provinces ...	...	...	..	..	1,500	1,500 0	...	800	198 37	1,698 37
J. Crawford ...	Do Clergyman	Gampola ..	..	..	...	...	1,500	1,310 48	...	...	...	1,310 48
H. C. Hancock ...	Minister	Kurunegala Church ...	...	...	..	...	1,500	1,500 0	...	...	...	1,500 0
Donation in aid of	Church Mission ..	...	...	...	..	...	...	...	1,000	..	...	1,000 0
Do. do.	Roman Catholic Mission .	...	..	.	...	...	...	..	1,000	...	...	1,000 0
Do. do	Society for the Propagation of the Gospel* ...	...	..	...	...	...	...	...	1,000	...	...	1,000 0
			Rs.	84,417 13		1,690		10,726 29	3,000		3,288 94	103,122 36

W. H. RAVENSCROFT,
Auditor-General.

VIII.

CORRESPONDENCE

RELATING TO

THE KURUNEGALA TANK.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

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CORRESPONDENCE

RELATING TO

THE KURUNEGALA TANK.

No. 1

The Hon'ble the COLONIAL SECRETARY to the DIRECTOR of the Royal Botanic Garden, Peradeniya.

No. 13.

Colonial Secretary's Office,
Colombo, 4th May, 1878.

SIR,—I AM directed to state that much expense and difficulty have been encountered in the attempt to remove great masses of vegetation growing in the Kurunegala tank, and that it has been suggested, in the course of correspondence, that even if all the vegetation in the bed of the tank could be removed, a fresh growth would spring up again immediately.

I am to enquire whether you can furnish a report upon the character of this vegetation, and suggest any means by which it can be removed, and the subsequent re-growth prevented; and, if so, I am to request you to be so good as to supply me with the information.

The Governor will be ready to sanction the payment of the travelling expenses of either yourself or Mr. Morris to and from Kurunegala, should it be necessary to inspect the tank.

I am, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 2.

The DIRECTOR of the Royal Botanic Garden, Peradeniya, to the Hon'ble the COLONIAL SECRETARY.

No. 14.

Royal Botanic Garden,
Peradeniya, 29th May, 1878.

SIR,—IN reply to your letter No. 13 of the 4th instant, I have now the honor of enclosing for His Excellency's information a report by my Assistant, Mr. D. Morris, embodying the result of his investigation as to the present state of the Kurunegala tank, and his suggestions for improving its condition.

I have, &c.,
G. H. K. THWAITES,
Director.

Enclosure in No. 2.

REPORT on Tanks at Kurunegala, by the ASSISTANT DIRECTOR of the Royal Botanic Garden.

IN accordance with instructions received from Dr. Thwaites, I proceeded to Kurunegala on the 13th instant, in order to "report on the character of the vegetation in Kurunegala tank, and suggest means by which it can be removed, and the subsequent re-growth prevented."

Kurunegala tank.

Accompanied by the Government Agent for the North-Western Province and Mr. Case (Public Works Department), I visited the tank on the morning of the 14th instant.

Its present state.

The tank has an area of 102 acres, with retaining bunds on three sides. That facing the south-west runs across the depression of the valley in which the tank is situated, and is of considerable length and size.

Owing to a breach in this bund, which occurred last year, the tank is now quite empty, and the small stream flowing through it finds an outlet through the breach. The floor of the tank is, at present, covered by a large accumulation of peaty deposits, mud, and silt. The peaty deposits, lying in isolated masses, are from two to four feet deep, and are composed of the fibrous roots, stems, and partly decayed leaves of grasses, sedges, and a large variety of aquatic plants. When cut vertically the peat appears stratified with each year's deposit, and is evidently the result of many years' accumulation.

Peaty deposits.

KURUNEGALA TANK.

CORRESPONDENCE.

Their history.

When the tank was full the greatest depth of water, viz.—near the south-west bund—was about nine feet; in a few other places it had five to seven feet of water, but for the most part the tank had a depth of only about three or four feet, even in the wet season. During the dry season the depth of water would be still less. Such conditions are most favourable to the growth of all kinds of aquatic plants, and if once allowed to establish themselves the surface of the water is soon covered by a rank and abundant growth of grasses, sedges, rushes, and other water-loving plants.

Character of vegetation.

On carefully examining the peaty deposits and the plants growing near, I found that for the most part they consisted of such grasses as *Panicum Myurus*, *Panicum interruptum*, and members of the Cyperus and Cyperus families. The matted growth of these mixed with such aquatic plants as *Ceratophyllum*, *Polygonum*, *Limnophila*, *Marsilea*, *Utricularia*, *&c.*, formed floating masses of great extent only slightly attached to the bottom. During the dry weather most of the grasses and sedges wither down, and their dead leaves accumulating on and around the floating stems serve to increase periodically the size of the mass, and to gather around them the fine mud and other deposits brought in during the rains. These processes had evidently been at work at the Kurunegala tank for many years, and the growths in the shallow reaches, as well as on the floating masses, had almost filled the tank.

Attempts at its removal.

Latterly, many attempts have been made to remove these masses of vegetation, but the success has been only partial. Last year, in September, an attempt was made to float out the detached masses through an opening in the south-west bund, but the water burst the bund, and the tank became empty. The floating masses resting on the soft mud at the bottom gave rise to fresh growths with great rapidity, and from September to March the area of the tank became a jungle of rushes, sedges, and other bog plants. To clear this jungle away, it was fired during the late dry weather, and everything was burnt off except the peaty deposits underneath.

The peaty deposits burned.

The question now remained: What was to be done with these accumulations of peat, and the large deposits of mud and silt which nearly fill the area of the tank? As an experiment, Mr. Sharpe placed a number of prisoners to dig the peat and carry it out on the bank. After two days' work the progress made was so slight that it was suggested, as an alternative, that the peat be stacked up to dry, and burned where it stood in the tank. This plan answered so well that there is now every hope of getting rid of much of the peaty deposit in this manner. This plan, so simple and effectual, has the additional advantage of completely destroying the roots of the grasses and sedges which still remain alive; and as the residual ashes are rich in potash and other salts, they might, mixed with soil, prove a useful manure for estates and gardens.

Removal of the mud and silt.

Should the greater part of the peat be burnt off, there will then remain a large quantity of mud and silt still to be removed. This question belongs more to the engineer than to the botanist; but, as it bears directly on the "subsequent re-growth" of the plants, I will discuss the probable effects of its removal in keeping the tank clear for the future.

Deepening the tank.

As mentioned above the depth of the tank now is most favourable to the growth of all kinds of aquatic plants. In the shallow reaches at the northern end of the tank, the water is seldom more than a foot or eighteen inches deep. Consequently, the vegetable growths of a tropical climate are so abundant, that these shallow parts supply seeds and stems, which, carried by the wind and current, establish themselves with great rapidity all over the neighbouring areas.

Again, as about two-fifths of the area of the tank has only a depth of about three and-a-half to four feet, even in the wet season, most of the aquatic grasses which start the floating islands grow with great luxuriance from the bottom, and as they have the power of sending floating stems, twenty or thirty feet long, over the surface of the deeper water, they soon cover the entire area of the tank.

If the mud and silt were removed, and a uniform depth, of at least six feet of water, be maintained, the conditions now so favourable to the growth of the aquatic plants would in a great measure be removed. The work of keeping in check the plants growing from the sides would also be lessened: and by carefully encouraging the growth of water-lilies, such as *Nymphæa lotus* and *Nymphæa stellata*, the tank might be kept free from most of the noxious weeds which now infest it.

Encouraging the growth of water-lilies.

A smaller and deeper tank.

The cost of deepening the area of so large a tank will no doubt be very considerable; but it is impossible to maintain it free from weeds unless something is done in this way. It would be better to lessen the area of the tank, and maintain a deeper and a smaller tank, than allow it, as at present, to become an extensive and unsightly bog filled with all kinds of useless weeds.

Wenoru-wewa tank.

In order to study the nature of the tank vegetation in a living state, I visited the Wenoru-wewa tank on the 15th instant with Mr. Case. This is a tank of 200 acres with an average depth of about five feet. I found its surface nearly covered by aquatic grasses and sedges of various kinds. Among them were *Panicum Myurus*, a strong floating grass with a pithy stem and *Panicum interruptum*; *Cyperus Roxburghii*, *Rhynchospora aurea*, *Polygonum tomentosum*, *Ceratophyllum verticillatum*, *Utricularia flexuosa*, *Nymphæa stellata*, and two ferns, *Aspidium unitum* and *Ceratopteris thalictroides*. The former of these ferns covered several acres, finding a safe resting place on the large masses of floating grasses. Near the lower part of the tank several hundred "yak-erabadu" trees (*Erythrina ovalifolia*, Roxb.) grew in the water, shewing that before the water accumulated in the tank the area was not cleared of vegetable growths.

The grasses in nearly every case had the power of sending out floating stems of considerable length. These stems branched abundantly and had submerged roots at every joint; when matted together they started the floating masses, and by yearly accumulations of mud, algæ, and the smaller aquatic plants, they increased considerably in bulk and formed floating islands four to eight feet in thickness, and of great area.

One grass just springing up after the showers of the previous month covered a very large portion of this tank. It was in too young a state for me to determine its botanical name, but I hope to have another opportunity of examining it and of studying its habits of growth.

Many water-lilies, pond-weeds, sedges, and rushes grew here and there in the water, but it was evident that the fast-growing and buoyant grasses such as *Panicum Maurus* and *Panicum interruptum*, and the one mentioned in the last paragraph, were the main elements in starting and sustaining this mass of vegetable growth.

Tank on the Puttalam road.

A visit paid to a tank on the Puttalam road, about three miles from Kurunegala, shewed a similar growth of aquatic grasses. This tank is so shallow that most of the grasses grew from the bottom. They were identical with those seen at Wenoru-wewa tank and on the sides of Kurunegala tank. In the middle of the tank, in water about six feet deep, the floating masses were mainly composed of the undetermined grass mentioned above. I explored the surface of this tank by means of a raft, and saw the floating islands in various stages of growth. There is no doubt that if these could once be removed, their subsequent re-growth might be prevented by careful and systematic weeding, carried on at regular intervals, but especially at the beginning of the wet season.

Suggestions.

In concluding my report on Kurunegala tanks, I beg leave to submit the following suggestions :—

1.—That the peaty deposits now in Kurunegala tank be burnt off *in situ* with as little delay as possible, and that advantage be taken of the burning to destroy the roots, stems, and corms of all troublesome weeds.

2. That the mud and silt which cannot be burnt be, as far as possible, removed, and the weeds along the sides and slopes of the tank be carefully taken up before the tank is again filled with water.

3.—That in order to prevent the re-growth of the vegetation in the tank it is most important that an average depth of at least six feet of water be kept up over the whole area of the tank, that arrangements be made to remove at short intervals the most injurious of the grasses and sedges as soon as they appear, and that the sides of the tank especially be kept free from aquatic grasses. Two or three rafts should be kept on the tank ready for use, and the men in charge instructed to confine their attention to the half dozen plants which are really injurious and troublesome. Dried specimens of these plants might be supplied to the Superintending Officers for identification, and their particular attention drawn to the necessity of constantly cutting off the long floating stems which give rise to the floating masses in deep water.

4.—That, with His Excellency's permission, another opportunity be afforded me of examining and determining the plants which, at the date of my visit, were not sufficiently grown to enable me to identify them. The most important of these undetermined plants is the one which forms the floating masses in the tank on the Puttalam road, and which enters largely into the floating masses on the Kurunegala and Wenoru-wewa tanks.

DANIEL MORRIS,
Assistant Director, Royal Botanic Gardens.

IX.

CORRESPONDENCE

RELATIVE TO THE

DUTCH BAY IMMIGRATION ROUTE.

(In continuation of Sessional Paper No. XXVIII. of 1877.)

Ordered by His Excellency the Governor to be Printed.

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CORRESPONDENCE

RELATIVE TO THE

DUTCH BAY IMMIGRATION ROUTE.

No. 1.

The Hon. the COLONIAL SECRETARY to the AGENTS of the British India Steam Navigation Company.

Colonial Secretary's Office,
Colombo, 20th February, 1878.

GENTLEMEN,—I AM directed to transmit to you the accompanying Immigration Commission report, and I am to request you to be good enough to consider and advise this Government whether the Company would undertake the conveyance of coolies from Tuticorin to Dutch Bay, and at what rate per head, on the understanding that in case of sickness the coolies would be at once landed and provided for on shore without detention of the steamers.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 2.

The Hon. the COLONIAL SECRETARY to the GOVERNMENT AGENT, Kurunégala.

Colonial Secretary's Office,
No. 82. Colombo, 20th February, 1878.

SIR,—I AM directed to request you to select and report upon the most convenient site on the shore north of Puttalam to which immigrants carried to Dutch Bay and landed there can be conveyed. The site to be selected should possess the advantages of a convenient landing place (or one that could be made so at a small cost), good water obtainable by the immigrants near at hand, and ground suitable for the erection of sheds.

I am to instruct you to select the site as early as possible.

I am, &c.,
GEO. T. M O'BRIEN,
for Colonial Secretary.

No. 3.

The Hon. the COLONIAL SECRETARY to the MASTER ATTENDANT, Colombo.

Colonial Secretary's Office,
No. 17. Colombo, 20th February, 1878.

SIR,—I AM directed to request you to report, with reference to your evidence before the Cooly Commission (question 19), whether there are any boats procurable—without building them—for the conveyance of coolies from Dutch Bay to the mainland, should that route be opened, and whether for a time the Government steam launch could be employed to tow the boats across, as a temporary arrangement, and what would be the probable cost of taking the coolies across.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 4.

The Hon. the COLONIAL SECRETARY to the DIRECTOR OF PUBLIC WORKS.

Colonial Secretary's Office.
No. 312. Colombo, 20th February, 1878.

SIR,—I AM directed to request you to cause estimates to be prepared of the cost of erecting temporary buildings for the reception of immigrants landing at Dutch Bay, with

DUTCH BAY IMMIGRATION ROUTE.

CORRESPONDENCE.

a separate room for hospital and accommodation for attendants; also, a temporary building for the immigrants at the site to be selected by the Government Agent north of Puttalam for landing the people, and temporary buildings for the accommodation of the immigrants along the road to Polgahawela; and I am to state that these shelter places should be erected at intervals of not less than five nor more than seven miles in the most convenient places where water is obtainable. The immigrant building at or near Kurunegala should be at least half-a-mile from the town.

I am further to request you to cause a report to be submitted with the estimates as to any points connected with the route, specifying in particular the quantity and quality of the water to be obtained at each station, and any other matters connected with the welfare of the immigrants.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 5.

The MASTER ATTENDANT, Colombo, to the Hon. the COLONIAL SECRETARY.

Master Attendant's Office,
No. 23. Colombo, 22nd February, 1878.

SIR,—In reply to your letter No. 17 of the 20th instant, I have the honor to state that Colombo cargo boats would be suitable for conveying coolies from Dutch Bay to the mainland, as a temporary measure, and that I have ascertained that the Wharf and Warehouse Company are willing to hire six or eight of their boats for a period of six months, on the terms stated in the annexed copy of the Manager's letter. The Government steam launch is not powerful enough for towing such heavy boats, and besides draws too much water for crossing the flats between Kalpitiya and Puttalam. What is required is a paddle tug of 40 or 50 tons, drawing not over two feet, and powerful enough to tow six 12-ton boats at the rate of three to four miles an hour; and probably a tug of this description could be chartered in Calcutta or Bombay.

Six boats would probably be sufficient to begin the service with. They would each require to have a crew of three men and one tindal, at monthly wages of about 20 rupees for the men and 30 rupees for the tindals. Thus the six boats would cost, say, in hire per month, 240 rupees, and in crew's wages per month, 540 rupees; total per month, 780 rupees.

Then, to arrive at the cost of conveying the coolies across, there would have to be added to the above the cost of hire and upkeep of the tug, and this can only be ascertained by inquiries at ports where a suitable one can be procured.

I am, &c.,
J. DONNAN,
Master Attendant.

Enclosure in No. 5.

From the MANAGER Wharf and Warehouse Company, Limited, to the MASTER ATTENDANT, Colombo.

Wharf and Warehouse Company, Limited,
Colombo, 21st February, 1878.

SIR,—In reference to your inquiry of our Mr. Stafford, I have the honor to inform you that we shall be prepared to furnish six cargo boats of from 12 to 14 tons each, for the use of Her Majesty's Government, for three to six months at 40 rupees a month each.

The boats to be returned to us in Colombo, when done with, in the same condition as when delivered to you.

I am, &c.,
J. J. GRINLINTON,
Manager.

No. 6.

The MASTER ATTENDANT, Colombo, to the Hon. the COLONIAL SECRETARY.

Master Attendant's Office,
No. 27. Colombo, 4th March, 1878.

SIR,—WITH reference to my letter No. 23 of the 22nd ultimo, I have the honor to state that a temporary tug for towing boats from Dutch Bay to Puttalam might be constructed by having a cargo boat of about fifty-five feet long by twelve broad built, and a pair of portable engines of about eight to ten-horse power each (if they could be lent for the occasion by the Public Works Department) placed in it and connected with paddles. A boat of the cargo boat class of this size could be built here in two months at a cost of about 1,800 rupees or less, and the necessary fittings for the engines could easily be made

in the Factory in the same time at, I presume, a small cost, as the only fittings required would be the paddles, a new shaft, gearing wheels, and the necessary bearings for the shaft. The engines would only require to be taken off their wheels, and placed side by side in the boat on chocks fitted to the requisite height. In this manner an effective tug could be obtained for much less money I believe than it would cost to charter one.

The boat would always be saleable when no longer required as a tug, and the engines could be returned to their original use.

I have, &c.,
J. DONNAN,
Master Attendant.

No. 7.

The GOVERNMENT AGENT, North-Western Province, to the Hon. the COLONIAL SECRETARY.

No. $\frac{126}{257}$. Kurunegala, 7th March, 1878.

SIR,—IN reference to your letter No. 82 of the 20th ultimo, I have the honor to annex copy of one No. $\frac{180}{15}$ from my Assistant at Puttalam, suggesting that Anakutti, which is six miles north of Puttalam and about fifteen miles across the lake from Dutch Bay, should be the landing place to which immigrants received at Dutch Bay should be conveyed by water, but that the first halting place should be two and a-half miles distant from thence at Manaltivu, where there are to be found high ground, shade, and water.

I have, &c.,
W. E. T. SHARPE,
Government Agent.

Enclosure in No. 7.

The ASSISTANT GOVERNMENT AGENT, Puttalam, to the GOVERNMENT AGENT, North-Western Province.

No. $\frac{180}{15}$. Puttalam Kacheheri, 27th February, 1878.

SIR,—IN reply to your letter of the 21st instant I have the honor to state that I yesterday examined Lake shore north of Puttalam with a view to finding a suitable landing place for immigrant coolies coming over via Dutch Bay.

The most suitable spot I know of is a small bay known to the natives as Anakutti.

It is not marked upon the map, but is situated about six miles north of Puttalam, and about half-a-mile to the east of the Coast road from Puttalam to Pomparippu. There is deep water to within fifteen or twenty yards of the shore, and for this distance a rough jetty might easily be constructed.

I do not recommend that this spot should be used for anything but a landing place.

The camping ground and sheds should be at Manaltivu which is two and a-half miles to the south of it, and where there are shady trees, high ground, and water at no great distance.

I take this opportunity of begging that if it is intended to adopt the Dutch Bay route even as an experiment, ample time may be allowed me for making the necessary arrangements.

Last year's confusion, mortality, and wasteful expenditure might have been greatly lessened if we had not been so much taken by surprise.

I will submit my views on the arrangements which I consider necessary for the proper organization of this route in a separate communication, if there is any likelihood of its being adopted.

I am, &c.,
P. A. TEMPLER,
Assistant Government Agent.

No. 8.

The GOVERNMENT AGENT, North-Western Province, to the Hon. the COLONIAL SECRETARY, Colombo.

No. $\frac{139}{257}$. Kurunegala, 13th March, 1878.

SIR,—ADVERTING to my letter No. 126 of the 7th instant, I have the honor to forward herewith a valuable report by my Assistant at Puttalam setting forth the

DUTCH BAY IMMIGRATION ROUTE.

CORRESPONDENCE.

establishment which Mr. Templer—who has now had considerable experience of the wants of immigrants both at Mannar and Puttalam last year—thinks will be necessary for the successful working of the Dutch Bay route. The six stations in his district, including Anakutti—to which he expects coolies to be conveyed by water across the lake from Dutch Bay—are marked in the annexed plan. The Provincial Assistant has estimated for narrower sheds, which are also shorter than Mr. Templer's, but can be lengthened if necessary.

2. The stations starting from

1. Dutch Bay would be—
2. Anakutti (landing-place only, no water).
3. Manaltivu, two-and-half miles from 2.
4. Uriawa, seven miles from 3.
5. Kottukachchi, seven miles from 4.
6. Talakolawewa, seven miles from 5. (The last station in Puttalam district.)
7. Dalupotagama, five miles from 6.
8. Nikaweratiya, five miles from 7.
9. Aulighama, six miles from 8.
10. Wariyapola, seven miles from 9.
11. Maguru-oya, six miles from 10.
12. Wilgoda, or circular road near Kurunegala, six miles from 11.
13. Kuripola, six miles from 12.
14. Polgahawela, five miles from 13.

The immigrants would thus cross from the Puttalam road to the Polgahawela road, half-a-mile from the town at Wilgoda. At all the eleven stations after Manaltivu the accommodation should be uniform, consisting of one large shed and two small ones. On each stage Mr. Templer proposes to have a staff of two peons and a kangani; at Dutch Bay a considerable establishment with quarters for supervisor and medical officer; and at Manaltivu, which he thinks will become an important station, a larger range of buildings; while at Anakutti, the landing place, he proposes to have no shed—only a hospital.

3. The estimated cost of the suggested establishment, including medical staff at Dutch Bay, Anakutti, and Manaltivu, would be, you will see, 919 rupees and 16 cents a month, or 11,029 rupees and 92 cents a year.

4. I particularly would invite attention to what Mr. Templer says of the alternative route from Dutch Bay by Karativu (opposite Kalpitiya), and thence down the Coast road, and I have called on him to state what the stations would be along that line north of Manaltivu.

5. Wells should be sunk at all the halting places, and the Director of Public Works asked to procure, through his overseers, reports on the water-supply in the vicinity of each halting station suggested.

I have, &c.,

W. E. T. SHARPE,
Government Agent.

Enclosure in No. 8.

REPORT of the Assistant Government Agent of Puttalam.

Buildings.

Dutch Bay.

NOT knowing what carrying power the vessels to be employed will have, or how many of them there will be, I am unable to make any estimate of the number of immigrants for whom accommodation must be provided. But allowing each person an average superficial area of 3 feet by 6 feet, a shed 100 feet by 30 feet would accommodate 166 persons. There should be at least three sheds of these dimensions. Besides these there ought to be—

Supervisor's quarters, consisting of three rooms each 18 ft. by 12 ft., with a small kitchen	ft. 54	by	ft. 12
Medical Officer's quarters with the same accommodation	54	„	12
Hospital for males	40	„	20
Do. females	40	„	20
Cholera hospital	20	„	12
Small-pox hospital	20	„	12
Peons' lines	60	„	20

Anakutti.

If this is to be the landing place only, no sheds will be required: for the coolies ought to be sent on directly they land to Manaltivu; but this cannot be orderly done unless there are a kangani and at least three peons to arrange the gangs and see that no stragglers get away by themselves, as they are very prone to do. Lines must therefore be erected for the kangani and peons, and I think a small hospital should be put up for the accommodation of any cooly who may be taken ill during the passage across, and be unable to walk on to the camping ground at Manaltivu. A small jetty, too, might be constructed so that the

boats might run alongside of it and land the coolies in proper order. If they have to get out of the boats, and wade to the shore, they will be much more difficult to control.

	ft.	ft.
Peons' lines	40 by	20
Hospital	20 „	12
Pile jetty	60 „	46

DUTCH BAY IMMIGRATION ROUTE.

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This will be the first camping ground after leaving Dutch Bay, and as the coolies will generally spend the night here, and as it will be advisable that they should be inspected carefully by the medical officer, so as to prevent the sickly ones from starting on the road journey, and as they will have to be counted by some officer to be appointed for the purpose, Manaltivu will be an important station. The buildings which I would therefore propose for construction here are:— Manaltivu.

	ft.	ft.
Two sheds each	100 by	30
Hospital	40 by	18
Dispensary (attached)	18 by	12
Kangani's and Peons' lines	40 by	20
Small bungalow for the medical officer or Assistant Government Agent, if either of them should have to spend the day there, as may often be the case, say two rooms, each	15 by	12

This is on the Kurunegala road about five miles out of Puttalam. Here it will be necessary to construct— Uriawa.

	ft.	ft.
One shed	100 by	30
Hospital	15 by	12
Kangani's and Peons' lines	30 by	12

This is at the 11th mile-post, and there will be required the same accommodation as at Uriawa. Kottukachchi.

Talakolawewa is at or near the 18th mile-post. Same accommodation as at Kottukachchi. As we pay royalty on all timber required by us for salt stores, I presume that it must be paid on such timber as the Public Works Department may require for immigration buildings. Talakolawewa. Royalty.

Establishment.

Two and-a-half years' experience of immigrants as Assistant Agent of Mannar, and last year's experience of the Puttalam and Kurunegala route, have convinced me of the paramount importance of careful and—above all—methodical supervision at the port where coolies are landed. Nothing is really known of the cooly until he is landed in Ceylon, or until he gets into the hands of our Immigration Department. The Indian authorities do not know, and do not care, whether he is sick or well when he goes on board the vessel which is to bring him over to Ceylon; and as his kangani looks upon him as an investment, he is reluctant to leave him behind so long as there is any chance of getting him on to the estate for which he is bound. On the northern route he falls into the able hands of Mr. Riedy at Paumben or Devipatam, and is watched and taken care of; but by the Colombo and Tuticorin route he is bundled between decks in a native barque, and there he remains—half-starved, sea-sick, and surrounded by indescribable filth—until he is bundled on shore at Colombo to get sick himself and to spread sickness through the city.

If the vessels employed on the Dutch Bay route are to be chartered by Government, and are to be subject to Government control, much of this will be impossible. But as the voyage will only last a day, whatever dormant disease the cooly may have about him will hardly have had time to develope itself, and I do not think any cooly should be allowed to leave Dutch Bay for Puttalam until he has been under observation for at least 24 hours.

The landing, despatching, and conservancy of several hundred coolies nearly every day will occupy the whole attention of an active and intelligent officer, whom I have indicated as the supervisor. Whatever his title may be, besides being active, sober, and trustworthy, he should have had some experience of coolies, should know their language, and should certainly be well paid; for a less attractive residence than Dutch Bay, and more irksome duties than his will be, can hardly be imagined.

These duties were performed last year by the District Mudaliyar, and occasionally by me. This however ought never to be the case again. There may be many others, but I cannot think of any one better qualified for the office than Mr. J. Riedy, who is, I believe, employed in the Customs Department of Colombo.

In addition to the supervisor, there should be a health officer specially appointed—such a man, if one can be found, as Mr. Ponniah, the pioneer doctor at Nikaweratiya. There should also be a medical assistant in charge of the hospital at Manaltivu, and the whole medical arrangements of this district should be placed under the control and management of a good Assistant Colonial Surgeon residing at Puttalam. A kangani and six peons will be required at Dutch Bay to take charge of the sheds, and to keep order among the coolies; and a kangani and two peons at each of the other stations.

DUTCH BAY IMMIGRATION ROUTE.

CORRESPONDENCE.

A tindal and four boatmen will also be required for each boat employed in landing the coolies and in taking them across the lake.

The supervisor will require a clerk to keep his accounts and returns of immigrants. The salary of this office need not exceed 30 rupees a month. I annex a statement shewing the monthly cost of the proposed establishment, exclusive of the Medical Department, whose requirements should be stated by the head of that Department.

Transport.

You will observe from the enclosed tracing, on which I have marked the route in red ink, that the course from Dutch Bay to Anakutti is for the greater part of the way nearly due south. It will therefore be impossible for boats to fetch this station aganist the south-west monsoon without tacking, and, therefore, spending a very long time over the run. I gather, however, from the report of the Commission that it is intended to put on a tug to tow the boats which will bring the coolies across. But in selecting this tug, it must be borne in thind that she will have to work against a head wind, one way or the other, all the year round.

The distance from Dutch Bay to Anakutti is about fifteen miles, and I doubt if a tug can tow boats over this distance and return to Dutch Bay in time to make a second run on the same day.

Such boats as are procurable here will not hold more than fifty coolies each; and I suppose a tug would hardly tow more than three such boats at a time, if they were fully loaded; this would account for only 150 coolies each trip.

I have marked on the tracing an alternative route, in blue ink, by Karativu (which is nearly opposite to Kalpitiya), and so down by the Coast road, or by a path which might be marked out along the beach.

The disadvantages of this route would be that it would lengthen the land journey by sixteen miles, and would take the immigrants through a country which is sometimes flooded, and at other times without a drop of drinkable water. The only advantage would be that the boats would get a "soldier's" wind between Dutch Bay and Karativu, during the greater part of the year.

Roads.

From the landing place at Anakutti to the camping ground at Manaltivu is open ground, where all that is required is to mark the straightest available track with good large sign-posts placed at intervals of fifty yards or so.

From Manaltivu to the Kurunegala road a foot-path was hastily opened by me last year; but this path will have to be widened and throughly cleared, if the Dutch Bay route is adopted. The distance is much the same as if the coolies came into the town and then went down the high road. The necessity for, if possible, preventing this, is obvious. The coolies might come down at the back of the town over the plain, and so get into the Kurunegala road at Chenakudiyirippu; but this too would be objectionable. The high ground known by this name contains the water-supply of the town, and is covered with cocoanut gardens in which the consumption and sale of toddy would be a dangerous temptation for the thirsty Tamil immigrant.

Sites.

The sites for the buildings all along the line, as far as it runs through this district, could be fixed upon Government ground. At Dutch Bay the Kalpitiya Mudaliyar owns a cocoanut tope in which one shed was erected last year, and I have no doubt that he would permit us to occupy any portion of his land that might be required.

Water.

This will be our chief source of difficulty and trouble. At Dutch Bay water can be got from holes made in the sand; but after the hole has been open a day or two the water becomes brackish, and I doubt if the local supply will be found sufficient. I would suggest that six large iron ship's tanks should be sent up, and these could be filled with water to be brought in barrels from Kalpitiya. At Manaltivu there is water now, but in the very dry weather I think it probable some similar course will have to be adopted there too.

At the stations along the road the supply is, I fear, but scanty. I believe, however, that if wells were sunk, water would be found. At Kottukachchi there is a large tank which is now being repaired, but the villagers would resent—and I think naturally—its being used by the immigrants. There is also a smaller tank on the opposite and eastern side of the road at Kottukachchi, but I fear this would not be found sufficient by itself. The overseers of the Public Works Department know better than any one else where water is to be found along the road; and I would suggest that they should be called upon to send in a return. There is fortunately a plentiful supply at Nikaweratiya, which is about half way.

Medicines, stores, &c.

Requisitions for these should be called for from the Medical Department, who should be made responsible for them. Last year great confusion was created by the divided responsibility which existed in respect of these matters. As things were wanted they were applied for by me from the Agent, and by the Assistant Colonial Surgeon from the head of his Department. Sometimes both authorities supplied them and sometimes neither, and then the things had to be got from tradesmen in Colombo. The result was confusion and waste. As far as hospital arrangements are concerned, the medical officers should be held solely and entirely responsible, but I think they should be instructed to act upon any suggestions the Agent or his Assistant may find it necessary to make with regard to general sanitary arrangements.

General.

I beg to suggest that before any arrangements are finally adopted or put into practice a steam launch be sent up here for a few days in order that she may be run over the line, and that the passages may be distinctly marked out with posts.

I shall be absent from Puttalam on circuit from the 10th to the 22nd instant, but

between the latter date and the end of the month I should be glad to assist in the carrying out of this work.

I have only taken into consideration the arrangements required for that portion of the route which lies within this district. I trust, however, that I shall be excused for suggesting the necessity for having a medical assistant quartered at Nikaweratiya, and who shall itinerate along the whole line once in every ten days or so.

I have in my statement of the cost of establishment put down the kanganies at twenty rupees, and the peons at twelve rupees and fifty cents. This may seem high, but I am sure that good men cannot be got for less. The people have a great horror of the immigrant cooly, supposing that he carries cholera with him wherever he goes, and will have nothing to do with him unless they are very well paid. The kanganies must be men who can read and write Tamil, and I do not know where to get such men with any activity and intelligence for less than twenty rupees a month.

I have, &c.,

P. A. TEMPLER,
Assistant Government Agent.

Statement referred to.

		Rs. Cts.	Monthly Salary. Rs. Cts.	Total. Rs. Cts.
Dutch Bay	Supervisor	...	166 66	
	Clerk	...	30 0	
	Peon	...	10 0	
	Kangani	...	20 0	
	6 Peons at	12 50 ...	75 0	
	(Say) 4 Tindals at	15 0 ...	60 0	
	24 Boatmen at	12 50 ...	300 0	
				561 66
Anakutti	Kangani	..	20 0	
	3 Peons at	12 50 ...	37 50	
				57 50
Manaltivu	Kangani	...	20 0	
	2 Peons at	12 50 ...	25 0	
				45 0
Uriawa	Kangani	...	20 0	
	2 Peons at	12 50 .	25 0	
				45 0
Kottukachchi	Kangani	...	20 0	
	2 Peons at	12 50 ...	25 0	
				45 0
Talakolawewa	Kangani	...	20 0	
	2 Peons at	12 50 ...	25 0	
				45 0
			Total...Rs.	899 16

Supposed Cost of Medical Staff for Putlalam District.

		Rs. Cts.	Rs. Cts.	Rs. Cts.
Dutch Bay	Health officer	...	50 0	
	6 Hospital Attendants at	12 50	75 0	
				125 0
Manaltivu	Medical Assistant	...	50 0	
	2 Hospital attendants at	12 50	25 0	
				75 0
			Total ... Rs.	200 0

P. A. TEMPLER,
Assistant Government Agent.

DUTCH BAY IMMIGRATION ROUTE.

A.

CORRESPONDENCE.

No. 9.

The Hon. the COLONIAL SECRETARY to the GOVERNMENT AGENT, Kurunegala.

Colonial Secretary's Office,
Colombo, 19th March, 1878.

No. 120.

SIR,—I AM directed to acknowledge the receipt of your letter No. 139 of the 13th instant, and to request that you will convey to Mr. Templer the thanks of the Governor for his able report.

I have, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 10.

The Hon. the COLONIAL SECRETARY to the PRINCIPAL CIVIL MEDICAL OFFICER.

Colonial Secretary's Office,
Colombo, 19th March, 1878.

No. 220.

SIR,—I AM directed to refer to you the enclosed letter from the Government Agent, Kurunegala.

The Governor will be much obliged to you if, before you leave, you will peruse it and give him the advantage of your experience in any remarks you may desire to offer, as it is his wish to organize the Dutch Bay route as early as the necessary arrangements can be made.

I have, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 11.

The PRINCIPAL CIVIL MEDICAL OFFICER to the Hon. the COLONIAL SECRETARY.

Principal Civil Medical Office,
Colombo, 22nd March, 1878.

No. 248.

SIR,—I HAVE the honor to acknowledge the receipt of your letter No. 220 of the 19th instant, with enclosures, herewith returned, and to submit in reply the following remarks on the Dutch Bay route.

2. I am of opinion that it would be preferable, if practicable as regards landing and water-supply, to have the immigration establishments at Dutch Bay on two of the islands, and not on the main land. The sheds for the accommodation of the healthy coolies should be erected on one island, and the hospital wards on another, so that in case of infectious disease breaking out the patients could be separated from the healthy and isolated, where communication could be easily prevented. As regards hospital buildings, I recommend :—

(*a*) - One general ward divided into two portions—one for males and the other for females—capable of affording accommodation for fifteen males and ten females, with the necessary bath-room and latrine accommodation.

(*b*)—Permanent cholera wards for six males and three females, with latrine accommodation.

(*c*) - Permanent small-pox wards for six males and three females, with latrine and bath room.

In connection with these wards, materials should always be in hand for constructing, at short notice, temporary wards, as the permanent ones would merely serve to accommodate the early cases, and in epidemic periods we would have to deal with large numbers. There should be a residence for the medical officer and three permanent hospital attendants. I propose to place the hospital and immigration station in charge of an intelligent Sub-Assistant Colonial Surgeon, who has been educated at our Medical School.

3. The distance from the landing place at Anakutti to Polgahawela is, in round numbers, seventy miles, and I am of opinion that the number of stations could be very considerably reduced.

I beg to suggest that one station every eight, nine, or ten miles would be ample, with a kangani and two patrols in charge of each.

The accommodation at each station should be uniform, consisting of a cooly shed capable of accommodating 100 coolies, and a hospital with three separate wards. The selection of the stations should be decided, in a great measure, with reference to the sufficiency of the water-supply.

4. As regards officers, there should be :—

An immigration and medical officer at Dutch Bay to inspect the coolies on arrival, separate the sick, and allow the healthy to proceed on. But before permitting a cooly to enter the Island, he should be registered, and a copy of the registration ticket given to him, which he must produce and have countersigned at each station he passes, and keep in his

possession until he leaves Ceylon.—I cannot agree with the suggestion of Mr. Templer that each cooly should be detained under observation for twenty-four hours, except in epidemic years, and then with great care, as I fear the congestion so caused might produce more harm than good.

(*b*) From the landing place at Anakutti to Polgahawela I consider that an intelligent medical practitioner should be placed in charge of every two stations, travelling in epidemic periods every day between the two, and when there is neither cholera nor small-pox on the road, every other day or twice a week. I would place an intelligent Sub-Assistant Colonial Surgeon midway between Anakutti and Polgahawela, or at Nikaweratiya. A third Sub-Assistant should be placed at the latter station.

(*c*) For medical supervision I would divide the route into two parts, placing one-half under the Assistant Colonial Surgeon at Puttalam, and the other half under the medical officer at Kurunégala; each officer would have to travel over the route occasionally in non-epidemic periods, and frequently when infectious disease is prevailing.

5. I consider there should be a large establishment off the Kurunégala road, and a mile from the Polgahawela station, in charge of a Sub-Assistant Surgeon, with the same hospital buildings as at Dutch Bay. This would be a kind of general depôt.

6. (*a*) Briefly to recapitulate the medical arrangements for the immigrant route from Dutch Bay. The medical officers at Kurunégala and Puttalam to supervise and be responsible for the arrangements in their respective districts. I consider that each officer should receive a fixed allowance of 500 rupees per annum for this extra and arduous duty.

(*b*) Three Sub-Assistant Colonial Surgeons at 75 rupees per month: one in charge at Dutch Bay, one midway or at Nikaweratiya, and the third at Polgahawela.

(*c*) In addition to these, a medical practitioner at 60 rupees for every two stations; the number of course will depend on the decision arrived at with reference to the number of stations on the route.

7. Medicines will be supplied by this Department, and I would suggest that each hospital be provided with a small room as a dispensary, fitted with shelves, where they could be stored. The equipment can be provided on requisition to the Colonial Storekeeper, and I would suggest that medical comforts be provided by the Government Agent's Department, and issued on requisition to the medical officers.

I am, &c.,
W. R. KYNSEY,
Principal Civil Medical Officer and
Inspector-General of Hospitals.

No. 12.

The DIRECTOR OF PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

No. 660. Colombo, 25th March, 1878.

SIR,—REFERRING to your letter No. 312 of the 20th ultimo, I have the honor to forward copy of a letter from the Provincial Assistant, Kurunégala, with an estimate amounting to 34,626 rupees, providing for temporary places of shelter for immigrant coolies between Dutch Bay and the Polgahawela railway station, to which should be added 1,500 rupees for sinking wells for a water-supply, making a total of 36,126 rupees.

The design for the buildings furnished by Mr. Young are economical and suitable for the purpose, and could be erected in a short time.

I have, &c.,
J. F. CHURCHILL,
Acting Director of Public Works.

Enclosure in No. 12.

The PROVINCIAL ASSISTANT, North-Western Province, to the DIRECTOR OF PUBLIC WORKS.

Shelter for Immigrants.

No. 317. Kurunégala, 7th March, 1878.

SIR,—WITH reference to your letter No. 122 of the 23rd ultimo, I beg to submit an estimate amounting to 34,626 rupees for building 14 temporary places of shelter between Dutch Bay and Polgahawela, together with a plan shewing a shed for the immigrants, and two smaller buildings, one to serve as an hospital and the other for the use of the attendants. These buildings, if properly taken care of and cadjaned once a year, should last ten years.

I annex a list of the stations which I propose, but the exact sites have not yet been selected by the Government Agent.

1. Dutch Bay.—Good supply of water.
2. Manaltivu.—Selected by the Assistant Government Agent of Puttalam, 2½ miles.

DUTCH BAY IMMIGRATION ROUTE.

CORRESPONDENCE.

south of the landing place where that gentleman states there is good water at no great distance.

3. On the line recently opened between the proposed landing place and the Kurunégala road. This site must be selected with reference to the supply of water.

4. Near the end of the 6th mile, Kurunegala road. Water very precarious; some shafts should be sunk in the search of a better supply.

5. At the 11th mile at Kotukachchi. Water plentiful.

6. At the end of the 16th mile. Water very uncertain. From the appearance of the ground, I think it very probable that water could be found by sinking shafts.

7. At the end of the 23rd mile at Dalapatgamuwa. Good supply of water. There is a tank close to the road, and a considerable village.

8. Nikaweratiya, at the end of the 29th mile; water in abundance.

9. Somewhere on the 36th mile.

10. Do. 43rd mile.

11. Do. 48th mile.

12. In the neighbourhood of Kurunégala.

13. Half-way between Kurunegala and Polgahawela.

14. Near Polgahawela.

There will be no difficulty from the want of water between Nikaweratiya and Polgahawela.

As it is proposed to put up all the buildings with rough unwrought timber, it will not be safe to make them any broader than is shewn on the plan, but if it should be considered necessary they can be lengthened to any extent required.

To save time, I submit a copy of this estimate and report to the Government Agent, soliciting an expression of his views, and I will forward that gentleman's reply as soon as received.

J. D. YOUNG,
Provincial Assistant.

ESTIMATE of the EXPENSES necessary to be incurred for building Temporary Cooly Sheds between Dutch Bay and Polgahawela.—*Kurunégala, 7th March,* 1878.

FOR ONE SET.

Plan or Description.	Particulars.	Portion of Work to be performed by Contract or otherwise.	Total.	Grand Total.
	Main Building.	Rs. Cts.	Rs. Cts.	Rs. Cts.
This Estimate provides for building 14 (fourteen) temporary places of shelter for immigrants between Dutch Bay and Polgahawela, according to the accompanying plan.	39 squares cadjan roofing at 12 rupees ...	468 0		
	6·50 „ mud-walling at 5 rupees ...	32 50		
	9 posts, 18 feet long 9 inch diameter, at 12 cents per foot	19 44		
	22 posts, 14 feet long 6 inch diameter, at 8 cents per foot ...	22 88		
	32 posts, 8 feet long 4 inch diameter, at 6 cents per foot	15 36		
	470 feet run of plates, &c., ridging at 6 cents..	28 20		
	20 squares gravel flooring at 50 cents ...	10 0		
	Clearing ground and fitting posts ...	200 0		
	Royalty on jungle sticks	200 0		
			996 38	
	For each of the two out-buildings to serve for Hospital and Attendants.			
	16 squares cadjan roofing at 12 rupees .	192 0		
	8·50 „ mud walling at 5 rupees ...	42 50		
	3 posts, 18 feet long 9 inch diameter, at 12 cents per foot	6 48		
	6 posts, 14 feet long 6 inch diameter, at 8 cents per foot	6 72		
	20 posts, 9 feet long 4 inch diameter, at 6 cents per foot ...	10 80		
	222 feet run of ridging and plating at 6 cents.	13 32		
	78 feet super-batten doors, at 1 rupee ...	78 0		
	36 „ windows, at 1 rupee ...	36 0		
	9 squares gravel flooring, at 50 cents ...	4 50		
	[Carried over	390 32	996 38	

	Rs.	Cts	Rs.	Cts.
[Brought forward	390	32	996	38
Clearing ground and fitting up posts ..	100	0		
Royalty on jungle sticks	100	0		
Total ... Rs.	390	32		
For two of the above buildings at Rs. 509·32 each .			1,180	64
Cost of one set of buildings			2,177	2
Cost of 14 sets of buildings at 2,177 rupees and 2 cents each ...			30,478	28
For searching for water and sinking wells			1,000	0
			31,478	28
Casualties ..			3,147	72
Total ... Rs.			34,626	0

JNO. DENT YOUNG,
Provincial Assistant, N.-W. P.

No. 13.

The Hon. the COLONIAL SECRETARY to the DIRECTOR OF PUBLIC WORKS.

No. 502. Colonial Secretary's Office, Colombo, 25th March, 1878.

SIR,—I AM directed to transmit to you the enclosed letter, No. 27 of March 4,* from the Master Attendant, Colombo, and to request you to be good enough to furnish me with your report as to the practicability of carrying out the suggestion therein made.

I am further to request you to report as to the cost of providing the boat required, and the consumption of fuel for such engines as those described; also, whether engines can be spared from the Factory, or the probable cost of replacing them, if they are permanently employed at the Ferry.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 14.

The GOVERNMENT AGENT, North-Western Province, to the Hon. the COLONIAL SECRETARY.

No. 163. Kurunégala, 27th March, 1878.

SIR,—ADVERTING to the 4th paragraph of my letter No. 139/257 of the 13th instant, I have the honor to annex copy of a further letter, No. 254/15 of the 23rd instant, from my Assistant at Puttalam on the alternative route viâ Karativu and Vannativillu which Mr. Templer thinks, however, less desirable than the one by Anakutti.

I would invite attention to the postscript about securing a report from Captain Donnan while employed on the Pearl Banks.

I have, &c.,
W. E. T. SHARPE,
Government Agent.

Enclosure in No. 14.

The ASSISTANT GOVERNMENT AGENT, Puttalam, to the GOVERNMENT AGENT, North-Western Province.

No. 254/15. Puttalam Kachcheri, 23rd March, 1878.

SIR,—IN reply to your letter No. 174 of the 12th March, asking for certain information regarding the alternative route suggested in my report of the 2nd instant, I have the honor to state that although the adoption of that route might be possible, I do not consider it advisable on account of the want of water which is likely to be experienced along it.

The coolies could be taken across to Karativu, where the salt pans are (and not to be confused with Karativu island) and thence they would have a march of about six miles to Vannativillu at or near the 12th mile-post on the Coast road. Thence they would have to come on to Manaltivu.

The stations then would be Karativu, about ten miles from Dutch Bay; Vannativillu, six miles from Karativu; Manaltivu, eight miles from Vannativillu.

As in the dry season there is likely to be scarcity of water, so in the wet season there will probably be too much. The country between Vannativillu and Manaltivu was entirely under water for several months in last year, and the Velikki-aru was impassable.

As stated in my report of the 2nd, I consider that the best plan would be to send up a steam tug at once, by *sea* to Dutch Bay (not by canal), and let us make trial of the line

* See No. 6, page 4.

DUTCH BAY IMMIGRATION ROUTE.

CORRESPONDENCE.

over which she would have to run, with one, two, or three cargo boats in tow. If it is found that the run to Ammkutti and back is too long, attention can then be directed to removing such difficulties as are presented by the alternative route through Karativu and Vannavtivillu.

I have, &c.,
P. A. TEMPLER,
Assistant Government Agent.

P.S.—I believe Captain Donnan is now on the Pearl Banks, and I cannot suggest a better arrangement than that he should be asked to examine the Lake route on his way back; and the Superintending Officer of the Public Works and myself might meet him at Dutch Bay, if we are favoured with timely notice of the probable date of Captain Donnan's arrival there.

P. A. TEMPLER.

No. 15.

The Hon. the COLONIAL SECRETARY to the DIRECTOR OF PUBLIC WORKS.

Colonial Secretary's Office,
No. 573. Colombo, 3rd April, 1878.

SIR,—I AM directed to refer to you the enclosed letters from the Government Agent, Kurunégala, and the Principal Civil Medical Officer, and to request you to cause an estimate to be prepared, at your early convenience, of the probable cost of the buildings necessary to be constructed for the use of immigrants along the Dutch Bay route, if that line be adopted.

The stations or shelters to be selected with reference to the facility of obtaining water, but in no case to be more than ten miles apart. The number of stations might be reduced in accordance with the suggestion of the Principal Civil Medical Officer.

Probably eight would be found sufficient, and the sick wards attached to each station should be small, as coolies would not be sent forward from the landing station unless they were in a condition to perform the journey.

The Governor will also be glad to receive from you any suggestions relative to the convenience of the coolies by this route.

I have, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 16.

The Hon. the COLONIAL SECRETARY to the MASTER ATTENDANT, Colombo.

Colonial Secretary's Office,
Colombo, 9th April, 1878.

SIR,—I AM directed to transmit to you the enclosed letter from the Government Agent, Kurunegala, and to request you to visit Dutch Bay and inspect the proposed landing-places with Mr. Templer, and report on them.

You should place yourself in communication with Mr. Templer, and arrange the date of your visit.

I am, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 17.

The MASTER ATTENDANT, Colombo, to the Hon. the COLONIAL SECRETARY.

No. 46. Colombo, 10th May, 1878.

SIR,—As directed by your letter of the 9th ultimo, I have the honor to report that I have visited Dutch Bay in company with Mr. Templer and Mr. Young, and inspected the channel from Dutch Bay to the proposed landing places for coolies on the mainland.

2. From the landing place at the preventive station in Dutch Bay there is deep water in the channel up to Kalpitiya, with the exception of the passage between the Islands of Periya Arichal and Sinna Arichal, where there is only four feet in some places at low water. From Kalpitiya across to Karativu on the mainland, the landing place of the alternative route referred to in Mr. Templer's letter No. 254/15 of the 23rd March last, there is nothing less than five feet of water up to within a very short distance of the shore at Karativu, with the exception of two shallow flats or sand banks between the Islands about midway across, where there is only three feet at low water.

From Kalpitiya to Anakutti, the originally proposed landing place about six miles north of Puttalam, there is nothing under nine feet of water in the channel which we went by until near the sand bank off the south end of Odiyar island, where there is only three feet at low water. This sand bank is from 50 to 100 yards long, and after it is crossed the water deepens again on the south side to six feet; and between this point and about 200 yards from the beach at Anakutti, there is nothing less than five feet of water; fifty yards from the beach there is three feet, and two feet quite close to the beach, which is composed of fine sand. On arriving at this point and finding that it lies to the north of some of the mouths of the river Mi-oya, which would have to be crossed by coolies on their way to and from Manaltivu, we proceeded to Trandimuni point, which is on the south side of the river, and about four miles north of Puttalam. Here we found a favourable landing place on a sandy beach with three feet of water about 150 yards from the beach, and nothing less than five feet between that and the sand bank on Odiyar island.

4. There is nothing at present to prevent boats drawing two and a-half feet of water from passing between the landing place in Dutch Bay and Trandimuni point, which I presume will be the adopted landing place on the Puttalam side; and to enable boats drawing three feet to pass, it only requires a channel over the sand bank off Odiyar island to be deepened say one foot by dredging.

It occurred to us while passing by Periya Arichal island on the east side of Dutch Bay that it would be a more favourable place for the coolies to be landed at from the steamer than at the preventive station, as it lies in the course which boats would have to take between the latter point and the landing point on the mainland, and would shorten the distance by three miles. The water is deep enough to admit of boats coming close to the beach of the island, and the steamer bringing coolies over from India could also anchor as near to it as to the preventive station; and the island of Siana Arichal lies at a convenient distance to the south for a quarantine station. I was informed that fresh water is procurable on the island in the same manner as at the preventive station, viz., by digging pits in the sand, and that an abundant supply of fresh water could be obtained from the island of Epantivu about one mile to the north-east of Arichal.

Dutch Bay is very much altered since Franklin's survey of 1815. The spit forming the west side of the bay appears to have extended about one mile further to the northward, and the soundings in the bay are different to what they were. Within my knowledge of the bay a shoal with six feet of water on it has formed about half-a-mile to the eastward of the point; and between that and the island of Arichal there is a shoal with three feet on it. There is, I have no doubt, plenty of deep water within the bay for vessels not exceeding ten feet draught, but it is necessary before steamers begin to use the bay to have a new survey made in order to define the limits of the shoals and mark them out with buoys, and I recommend that two officers of the Survey Department be detached on this service as soon as possible; and while they are about the survey of Dutch Bay they might stake off the best channel along the west side of Periya Arichal and round between the islands of Arichal into the deep water channel which runs past Kalpitiya, also the channel over the sand bank off the south end of Odiyar island, and then the whole channel between Dutch Bay and Trandimuni point would be sufficiently marked out.

I am, &c.,
J. DONNAN,
Master Attendant.

No. 18.

The GOVERNMENT AGENT, North-Western Province, to the Hon. the COLONIAL SECRETARY.

No. 256/257. Kurunegala, 18th May, 1878.

SIR,—I HAVE the honor, in reference to letter No. 163 of the 27th March and former correspondence to forward another report from my Assistant at Puttalam on the water route recently inspected by him, Captain Donnan, and the Provincial Assistant, together with a copy of letter by the last-named gentleman, to whom I sent Mr. Templer's report for his observations.

I have, &c.,
W. E. T. SHARPE,
Government Agent.

Enclosure No. 1 in No. 18.

REPORT by the ASSISTANT GOVERNMENT AGENT, Puttalam.

WE left Colombo in the steam launch on Thursday evening, the 2nd instant, and anchored off Dutch Bay on the following night at about 8 P.M.

Early on Saturday we steamed into Dutch Bay and after unloading coal started for Kalpitiya at 10 A.M.

While passing the island of Arichal, which lies about a mile east of the preventive officer's bungalow, it was ascertained from soundings made by Captain Donnan that there are two fathoms of water up to within a very short distance of the beach on this island.

DUTCH BAY IMMIGRATION ROUTE.

CORRESPONDENCE.

If therefore the steamers can go in as close to Arichal as they can to Dutch Bay, th former would be a much better immigrant station than the latter. There is not much t choose between them as regards water-supply, and at either place it will be necessary t keep water tanks to be filled up from Karativu island.

We reached Kalpitiya about 12 on Saturday, and in the afternoon ran across to Karativu and back; on Sunday no work was done; but on Monday morning at 6 A.M. w started for Anakutti, and found nothing under one and a-half fathom of water unti we came to Udaiyar Putti. When we reached this place it was about half tide an there was only three feet of water over the shoal. As the launch was drawing 3 feet inches astern we had to leave her, and go in the life-boat. After going about fifty yards w got into deep water again, and found one fathom water up to within a very short distanc of Anakutti.

On landing at Anakutti, I found that Mr. Young was right as to the exact spo which I had fixed on for the landing place. It is situated to the south of four of th mouths of the Mi-oya or Velikki-áru; but there are three other openings from the sam river lying to the south of my landing place, and with the existence of which the head man did not make me acquainted. In fine weather these streams are only about thre feet deep, but in the rainy season they might form a formidable obstacle to the passage o coolies, and therefore, although I do not suppose it is beyond the resources of engineerin art to overcome these obstacles, I thought it better to seek another landing place.

This we found on an island which lies at the point of a spot known to the fisherme as Trandimunai and situated about a mile to the south of Anakutti. Having ascertaine from soundings that there would be no difficulty in landing coolies at this point, w returned to the launch and got back in her to Kalpitiya about 3 P.M.

The following day I returned to Puttalam, with Mr. Young, and yesterday afternoo we set out to find a track from Manaltivu to Trandimunai. The distance is altogethe about two and-a-half miles, and is perfectly easy walking the whole way to within half mile of the landing place. There we came upon a small stream through which we had t wade about hip-deep. Again, between Trandimunai and the mainland there is a tidal fla about 80 yards wide, the bottom of which is of sticky black mud. When we were there th water was about two and a-half feet deep, and it can never rise to more than three and-a-hal feet. Both these places would require to be bridged with light-hand bridges, the cost o which should not be great. Mr. Young talks of throwing up an embanked roadway from Manaltivu to Trandimunai. I consider this quite unnecessary. The track lies along th edge of a salt plain upon which there can never be more than a few inches of water, and I believe that a line could be cut through the scrub growing on the high land which skirt this plain, and that this line would take the cooly straight to Manaltivu without ever wetting his feet.

As Captain Dunman will report fully upon the soundings taken by him, I have no thought it necessary to say much about the passage across the lake. But I may remark that a tug drawing two and a-half feet of water could have brought us the whole way from Dutch Bay to Trandimunai, and that by dredging out about 50 yards of the channel at Udaiyarputti it would be possible to use a tug of four feet draught.

There is an island about a quarter of a mile to the south of Arichal upon which I would recommend that the hospitals should be placed.

P. A. TEMPLER,
Assistant Government Agent.

Enclosure No. 2 in No. 18.

The PROVINCIAL ASSISTANT, Kurunegala, to the GOVERNMENT AGENT, North-Western Province.

No. $\frac{93}{75}$.

Kurunegala, 14th May, 1878.

SIR,—With reference to your letter of yesterday, No. 534/257, forwarding report from your Assistant at Puttalam, herewith returned, I beg to state that I concur in all that i therein contained, with the exception of the remarks on the mouths of the Mi-oya i Illuppagara which have to be crossed in going from Anakutti to Manaltivu. Works of colossal nature would be required to turn these mouths during floods or to bridge them s as to keep open the communications; and even in fine weather the passage during hig tides would be attended with much inconvenience. Nor did I find it by any means per fectly easy walking between Manaltivu and Trandimuni—although we passed over th ground at low tide; during high tides there will probably be a foot of water over th greater part of this distance.

I am of opinion that the low salt marsh may be avoided to a great extent, by tracing a road over the ground now covered with scrub, alluded to by Mr. Templer, which appear to be somewhat higher.

Mr. Templer has considerably under-estimated the breadth of the two salt creeks we had to wade through—the larger is about 500 feet broad and the smaller 200 feet. Pile bridges with masonry abutments ought certainly to be provided for crossing them; and even should the road be taken as far as possible over the higher ground now covered with scrub, low places at intervals will be met with, that ought to be embanked; and I would very strongly urge the necessity of having a properly traced road set out from Trandimuni to the Kurunégala road before the buildings on that part of the proposed route are put up, and that borings be taken along the line for the purpose of ascertaining the nearest point to Trandimuni at which water can be obtained.

I am, &c.,

J. D. YOUNG.
Provincial Assistant.

No. 19.

The DIRECTOR OF PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

No. 1,168. Colombo, 12th June, 1878.

SIR,—WITH reference to your letter No. 573 of the 3rd of April last, I have the honor to inform you that I have inspected the proposed cooly route from Dutch Bay via Puttalam lake and the Kurunegala road to the Polgahawela railway station, and enclose an estimate amounting to 63,677 rupees, providing for the cost of temporary cooly sheds, hospitals, &c., required at each halting-place, sinking wells, landing stages, and two steamers for the conveyance of the coolies from Dutch Bay to the lower end of the Puttalam lake at Palawe.

At the landing place at Dutch Bay the following accommodation is provided for in the estimate:—

	ft.	in.
Two sheds for coolies, each	163 by	25
One general hospital	54 by	25
One cholera do.	44 by	25
One small-pox do.	44 by	25
Medical officer's house	47 by	25
Inspector of Immigrant's house	4[illegible] by	25
Out-houses, two sets	40 by	19
Lines for kanganies and three peons	40 by	19
Lines for three hospital attendants	30 by	19
Latrines and baths for the different buildings.		

A similar set of buildings to be erected at Polgahawela.

The estimate also provides for seven halting places between the landing place at Palawe and Polgahawela:—

1st.—At the 4th mile on the Puttalam and Kurunegala road (being about five miles from the landing place at Palawe.)

2nd.—Between the 13th and 14th mile on the Puttalam and Kurunegala road.

3rd.—At the 23rd mile, Dalpotagamuwa tank and village.

4th.—At the 31st mile, Deduru-oya river.

5th.—At the 41st mile, Wariyapola.

6th.—At the 51st, three miles short of Kurunegala.

7th.—Five miles on the road from Kurunegala towards Polgahawela.

Provision is made to the extent of 3,000 rupees for sinking wells at all the stations. The water-supply all along the route will be good and ample.

The accommodation at these seven halting stations is to consist of a cooly shed 163 by 25 feet, and at each alternate station a general cholera and small-pox hospital to be built, each hospital to be 50 by 25 feet. It is presumed that the medical officer at Puttalam will inspect the immigrant establishments for half the way to Kurunegala, and the medical officers at Kurunegala and Polgahawela the remainder.

As regards the landing place for coolies coming by boat from Dutch Bay, I would beg to recommend that they should land at the bottom of the Puttalam lake at Palawe, as shewn by the red line on the plan annexed thus avoiding the town of Puttalam), and proceed by a road to be cut about four miles in length to the station to be formed at the 4th mile on the Puttalam and Kurunegala road.

It would not do to land the coolies to the north of Puttalam, for they have to cross the swamps and mouths of the Mi-oya river that might be impassable for days in floods.

For the conveyance of the coolies from the station at Dutch Bay at the top to Palawe at the bottom of the Puttalam lake, a distance of about twenty-five miles, the estimate provides for the construction of two flat-bottom paddle steamers that would draw two and a-half feet of water, to be propelled by portable engines to be supplied from the Public Works Department Factory. These steamers could carry coolies and also tow native boats that could be hired for the conveyance of coolies.

I have, &c.,

J. F. CHURCHILL,
Acting Director of Public Works.

DUTCH BAY IMMIGRATION ROUTE.

Correspondence.

Estimate of the Expenses necessary to be incurred for putting up the proposed temporary buildings for Immigrants between Dutch Bay and Polgahawela.—

Kurunegala, 15th May, 1878.

Plan or Description.	Particulars.		Portion of work to be performed by contract or otherwise.	Total.
	At Dutch Bay.	ft.	Rs. Cts.	Rs. Cts.
This estimate provides for building at the station in Dutch Bay and at Polgahawela two sheds 163 feet 6 inches long by 25 feet 6 inches broad, a hospital 54 feet by 25 feet 6 inches, a cholera hospital 44 feet by 25 feet 6 inches, a small-pox hospital of the same dimensions—all the hospitals to have latrines and baths attached; a house for the medical officer 47 feet by 25 feet 6 inches, and another of the same dimensions for the Inspector of Immigrants—both houses to have similar out-houses 40 feet by 19 feet; lines for kanganies and three peons 40 feet by 19 feet, and for three hospital attendants 30 feet by 19 feet; seven cooly sheds of the above dimensions to be built between the landing place on the mainland and Polgahawela; and at three intermediate stations quarters for a medical officer and a hospital of three wards 50 feet by 25 feet 6 inches are to be provided, to be built of rough timber, thatched with cadjans, the walls to be of mud and stick, smoothed and white-washed. The cooly sheds to have half walls, but the dwelling houses to be walled to the plating and provided with batten doors and windows; all the buildings to be as strong and as well put together as the nature of the materials will admit of.	2 cooly sheds 163 feet 6 inches by 25 feet 6 inches ... =	8,338·5		
	1 hospital shed 54 feet by 25 feet 6 inches .. =	1,377		
	1 cholera shed 44 feet by 25 feet 6 inches =	1,122		
	1 small-pox shed 44 feet by 25 feet 6 inches ... =	1,122		
		11,959	at 60 cts. per ft.	
	Medical officer's house 47 feet by 25 feet 6 in. =	1,198·5		
	Inspector of Immigrants' house 47 feet by 25 feet 6 inches =	1,198·5		
	Out-houses, 2 sets, 40 feet by 19 feet ... =	1,520		
	Lines for kangani and three peons 40 feet by 19 feet =	760		
	Lines for 3 hospital attendants 30 feet by 19 feet =	570		
		5,247	at 75 cts. per ft.	
	Latrines 30 feet by 8 feet	240		
	Baths 24 feet by 10 feet	240		
		480	at 30 cts. per ft.	
	11,959 feet super of sheds at 60 cents per foot ...		7,175 40	
	5,247 feet super. of house-room at 75 cents per foot ...		3,935 25	
	480 feet super. of sheds at 30 cents per foot ...		144 0	
	For the buildings at Dutch Bay ...		11,254 65	
	For do. at Polgahawela ...		11,254 65	
	For seven sheds 4,169·25 feet super. at 60 cents per foot ...		17,510 85	
	For three hospitals at alternate stations each 50 feet by 25 feet 6 inches = 3,825 feet super. at 75 cents per foot ...		2,868 75	42,888 90
	Two landing jetties at Rs. 500 each.		1,000 0	
	Cutting four miles of road at Rs. 250 per mile ...		1,000 0	
	Sinking wells ...		3,000 0	
	Two steamboats at Rs. 5,000 each.		10,000 0	15,000 0
			Rs.	57,888 90
			Casualties	5,788 10
			Total...Rs	63,677 0

J. F. CHURCHILL.

X.

REPORT OF THE COMMISSIONERS

APPOINTED TO INQUIRE INTO

THE SUBJECT OF

RAILWAY EXTENSION.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

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LETTER OF APPOINTMENT.

COLONIAL SECRETARY'S OFFICE,
COLOMBO, 26TH JUNE, 1878.

GENTLEMEN,

I AM directed to acquaint you that His Excellency the Governor has received a Despatch from the Secretary of State for the Colonies announcing that the Consulting Engineer, Mr. C. H. Gregory, C.M.G., has approved of the designs submitted to him for an extension of the railway from Náwalapitiya to Nánu-oya, subject to such improvements as may be made in minor points, and that his estimate of the cost of the line is 10,300,000 rupees; but that having regard to contemplated improvements in the line, the Crown Agents, after carefully reviewing the general question of railway construction in Ceylon, have come to the conclusion that the forty-two miles of railway from Náwalapitiya to Nánu-oya cannot be made at a lower rate than £24,000 a mile, or 10,750,000 rupees; and that this sum is accepted as the probable cost of the line.

The Secretary of State observes that this rate of expenditure on a purely agricultural line, not connecting any centres of population, is extremely high, and would in an ordinary case be prohibitive; but, considering the exceptionally profitable nature of the produce to be carried over the proposed line, the great weight of local authority in its favour, and the recommendation of Mr. Hutton Gregory and the Crown Agents on the subject, Sir Michael Hicks-Beach is not prepared to refuse his sanction to the undertaking, provided that satisfactory arrangements can be made to ensure as far as possible that the general revenues of the Colony shall not be exposed hereafter to any considerable charge on its account.

After reviewing the various suggestions that have been made for ensuring this end, the Secretary of State has expressed his strong opinion that, if possible, means should be taken for securing that those for whose special benefit the line is to be made should bear the necessary charges, and with this view that the traffic rates (which were estimated by Mr. Robinson, the Traffic Manager, in the Paper dated 5th August, 1876, appended to the Report made by the Railway Commission on the 9th of the same month, to produce a net profit from the land then in cultivation of 316,641 rupees) should be increased sufficiently to pay from the land now in cultivation at least five per cent. on the estimated outlay of 10,750,000 rupees.

The Planters' Association, by a resolution passed on the 25th ultimo, have resolved that they "are prepared to recommend to Government, and to support Government in proposing, that until the railway is completed to Hapuhalé, rates for traffic should be fixed at a figure that will meet the required amount of six per cent., and that the proprietors and those interested in the districts affected be called upon to express their opinion on this matter, and to state if they will be prepared to use the railway for their traffic at the rates that may be found necessary by the Government."

The Planters' Association having thus, by anticipation, expressed an opinion in favour of the proposal of the Secretary of State, His Excellency requests that you will take into consideration the question, whether it is possible to increase the rates upon the traffic, which may be fairly relied upon, to an amount sufficient to produce at least a net profit of five per cent. on the estimated outlay of 10,750,000 rupees, and that you will, after taking the evidence of the planters interested, report fully as to the possibility of making such increase to the rates without risk of loss from competition with other modes of conveyance, and without danger of causing hindrance to the development of traffic.

It is the desire of the Governor that your report should be prepared and submitted with as little delay as is consistent with a thorough and searching investigation into the question now submitted to you.

I am, GENTLEMEN,
Your obedient Servant,
G. T. M. O'BRIEN,
for Colonial Secretary.

THE HON. W. H. RAVENSCROFT,
THE HON. A. B. FYERS, Surveyor-General.
THE HON. R. B. DOWNALL,
G. MURDOCH, ESQ., Traffic Manager,
G. WALL, ESQ.,
J. DUNCAN, ESQ.,
W. SMITH, ESQ.,
W. GIBBON, ESQ.

RAILWAY EXTENSION COMMISSION.

REPORT.

THE HON'BLE
THE COLONIAL SECRETARY.

RAILWAY EXTENSION COMMISSION.

REPORT.

SIR,—IN compliance with His Excellency's request, conveyed by your letter of the 26th June last, we, the Commissioners, have the honour to report as follows :—

We have taken the evidence of planters and others interested in the proposed extension, and we subjoin a record of their testimony. — Appendix.

The Surveyor-General has laid before us a summary shewing the probable acreage which will use each of the proposed stations on the extension, which we annex. — Appendix D.

Two trial estimates of receipts from traffic at increased rates based upon this summary, and one based upon the actual traffic carried from Nawalapitiya by the existing railway during last year, have been submitted to us by the Acting Traffic Manager of the Railway—all of which will be found in the appendix. — Appendix A & B. Appendix C.

In all the estimates laid before the Commission there exists a disproportion between the rates for different kinds of traffic which in our opinion is greater than is expedient, as it is not certain that the most cheaply carried traffic would be carried for the benefit of the same parties who contribute the higher paying traffic. It is deemed desirable therefore that the increase of rate necessary to secure the required return should be mainly in manure.

The Commission consider that if the rate for manure in table B. in the appendix were kept as it is, and the quantity were increased by forty per cent., in accordance with the evidence, and the surplus obtained devoted to the reduction of the rates imposed on rice and first and second class goods, a complete system of traffic rates would be attained which, according to the evidence adduced before the Commission, could be fairly charged without risk of loss from competition with other modes of conveyance, and without danger of causing hindrance to the development of traffic.

The Commissioners accordingly submit a table framed in accordance with the foregoing considerations, and recommend that the rates therein stated should be adopted. It will be seen that they are calculated to pay from land now in cultivation a fraction over six per cent. on the estimated outlay. — Appendix A 1.

The Commission desire to add that in these estimates no credit has been taken for traffic which will accrue to the extension at the passing station near the 13th mile.

The Commission are assured that the traffic from five thousand additional acres will be secured at this station if favourably situated.

We are, &c.,

W. H. RAVENSCROFT,
Acting Colonial Secretary

A. B. FYERS,
Surveyor-General.

R. B. DOWNALL,

G. MURDOCH,
Acting Traffic Manager.

G. WALL,

J. DUNCAN,

W. GIBBON.

Council Chamber,
Colombo, 1st August, 1878.

APPENDIX.

A 1.

RAILWAY EXTENSION COMMISSION.

APPENDIX.

PROPOSED Extension of the Ceylon Government Railway from Nawalapitiya to Nanu-oya.—Estimate of Traffic derivable from Land now in cultivation.

Distance in Miles.	Station.	Description of Goods	Rate per Ton. Rs.	Cts.	Tons	Receipts. Rs.
21	Kuda-oya	Coffee	5	25	13,700	71,925
		First class	11	90	760	9,044
		Rice	8	95	14.450	129,328
		Second class	8	95	10,000	89.500
		Manure	5	00	6,440	32,200
25	Rosita	Coffee	6	25	2,100	13,125
		First class	14	15	110	1,557
		Rice	10	60	2,200	23,320
		Second class	10	60	1,520	16,112
		Manure	6	10	1,000	6,100
30	Talawakele	Coffee	7	50	7,700	57,750
		First class	17	0	430	7,310
		Rice	12	75	8,140	103,785
		Second class	12	75	5,640	71,910
		Manure	7	20	3,640	26,208
34	Wattagoda	Coffee	8	50	2,300	19,550
		First class	19	25	130	2,503
		Rice	14	45	2,420	34,869
		Second class	14	45	1,680	24,276
		Manure	7	90	1,080	8,532
42	Nanu-oya	Coffee	10	75	6,500	69,875
		First class	24	40	360	8,784
		Rice	18	40	6 700	123,280
		Second class	18	40	4,720	86,848
		Manure	10	0	3,080	30.800
		Total Goods Receipts			106,800	1,068,591
		Total Live Stock				1,720
		" Coaching				63,000
		" Miscellaneous receipts				3,440
						1,136,751
		Less Working Expenses				489,416
		Net Profit				647,335

Per-centage of profit on a capital expenditure of Rs. 10,750,000—6·02 per cent.

NOTE.—The rates in the above estimate compare with that framed by Mr. E. Robinson in August, 1876, and approved by the Commission, as follows:—

Coffee	Same rates.
First class, Rice, Second class	Rates increased 41½ per cent.
Manure	44

Traffic Manager's Office,
Colombo, 1st August, 1878.

GEO. S. MURDOCH,
Acting Traffic Manager.

RAILWAY EXTENSION COMMISSION.

A.

Proposed Extension of Railway from Nawalapitiya to Nanu-oya.

Estimates of Traffic derivable from Land at present in cultivation.

Distance in miles from Nawalapitiya.	Stations.	Section I. Same rate per ton as in the Railway Commissioners Estimate dated 5th August, 1876.				Section II. Rates increased 18 per cent.			Section III. Rates increased 31 per cent.		
		Description of Goods.	Rate per Ton.	Tons.	Receipts	Rate per Ton.	Tons.	Receipts.	Rate per Ton.	Tons	Receipts.
			Rs. Cts.		Rs.	Rs. Cts.		Rs.	Rs. Cts.		Rs.
21	Kudá-oya ...	Coffee ...	5 25	13,700	71,925	6 20	13,700	84,940	6 90	13,700	94,530
		1st Class ...	8 40	760	6,384	10 0	760	7,600	11 0	760	8,360
		Rice ..	6 30	14,450	91,035	7 50	14,450	108,375	8 25	14,450	119,213
		2nd Class	6 30	10,000	63,000	7 50	10,000	75,000	8 25	10,000	82,500
		Manure ...	3 50	4,600	16,100	4 20	4,600	19,320	4 60	4,600	21,160
25	Rosita ...	Coffee	6 25	2,100	13,125	7 40	2,100	15,540	8 20	2,100	17,220
		1st Class ..	10 0	110	1,100	11 80	110	1,298	13 0	110	1,430
		Rice ...	7 50	2,200	16,500	8 90	2,200	19,580	9 80	2,200	21,560
		2nd Class ...	7 50	1,520	11,400	8 90	1,520	13,528	9 80	1,520	14,896
		Manure ..	4 25	710	3,018	5 0	710	3,550	5 60	710	3,976
30	Talawakele ..	Coffee	7 50	7,700	57,750	8 90	7,700	68,530	9 80	7,700	75,460
		1st Class ...	12 0	430	5,160	14 20	430	6,106	15 70	430	6,751
		Rice ..	9 0	8,140	73,260	10 70	8,140	87,098	11 80	8,140	96,052
		2nd Class ...	9 0	5,600	50,400	10 70	5,600	59,920	11 80	5,600	66,080
		Manure ...	5 0	2,600	13,000	5 90	2,600	15,340	6 60	2,600	17,160
34	Watagoda ..	Coffee ...	8 50	2,300	19,550	10 0	2,300	23,000	11 20	2,300	25,760
		1st Class	13 60	130	1,768	16 0	130	2,080	17 80	130	2,314
		Rice ...	10 20	2,420	24,684	12 0	2,420	29,040	13 40	2,420	32,428
		2nd Class ...	10 20	1,680	17,136	12 0	1,680	20,160	13 40	1,680	22,512
		Manure ...	5 50	770	4,235	6 50	770	5,005	7 20	770	5,544
42	Nánu-oya .	Coffee ...	10 75	6,500	69,875	12 70	6,500	82,550	14 10	6,500	91,650
		1st Class ...	17 25	360	6,210	20 30	360	7,308	22 50	360	8,100
		Rice ...	13 0	6,700	87,100	15 40	6,700	103,180	17 0	6,700	113,900
		2nd Class ...	13 0	4,720	61,360	15 40	4,720	72,688	17 0	4,720	80,240
		Manure ...	7 0	2,200	15,400	8 25	2,200	18,150	9 25	2,200	20,350
Total Goods Receipts				102,400	800,475			948,886			1,049,146
„ Live Stock „					1,720			1,720			1,720
„ Coaching „					63,000			63,000			63,000
„ Miscellaneous Receipts					3,440			3,440			3,440
					868,635			1,017,046			1,117,306
Less working expenses.....					471,625			471,625			471,625
			Net profit...Rs.		397,010		Rs.	545,421		Rs.	645,681
Per-centage on profit on capital of Rs. 10,750,000 = ...					3·7 ₱ cent.			5·07 ₱ cent.			6 ₱ cent.

Traffic Manager's Office.
Colombo, 11th July, 1878.

GEO. S MURDOCH,
Acting Traffic Manager

D.

SUMMARY shewing probable acreage which will use each of the proposed Stations on the Railway Extension to Nanu-oya.

District.	Kuda-oya Station, 22 miles 20 chains from Nawalapitiya.		Rosita Station, 24 miles 50 chains from Nawalapitiya.		Talawakele Station 29·63 miles from Nawalapitiya.		Watagoda Station, 33·60 miles from Nawalapitiya.		Nanu-oya Station, 41·60 miles from Nawalapitiya.	
	Area cultivated at present.	Additional area to be cultivated.	Area cultivated at present.	Additional area to be cultivated.	Area cultivated at present.	Additional area to be cultivated.	Area cultivated at present.	Additional area to be cultivated.	Area cultivated at present.	Additional area to be cultivated.
	(Coffee.)		(Coffee.)		(Coffee.)		(Coffee.)		(Coffee.)	
Ambagamuwa ...	2797	2000	..	...	..	.	..	...	...	...
Dik oya ...	23012	3902	..	...	...	...	.	...	...	.
Maskeliya ...	15976	6849	...	..	...	...	.	...	..	.
Dimbula ...	1101	100	6566	800	24121	5500	4499	400	3522	2000
Pundaluoya	...	..	...		.	.	2952	300	.	..
Udu Pussellawa ...	...	...	...	.	..	..	...	...	7957	2000
New Galway	...	...	..	..	..	..		...	700	1500
	42886	12851	6566	800	24121	5500	7451	700	12179	5500

Surveyor-General Office,
Colombo, 8th July, 1878.

A. B. FYERS, LIEUT.-COLONEL, R.E.
Surveyor-General

QUESTIONS SUBMITTED TO WITNESSES.

RAILWAY EXTENSION COMMISSION.

QUESTIONS.

1 *a*. What are the transport rates per ton for coffee, rice, and manure to and from Nawalapitiya, respectively, from and to the following stations:—

Craigie Lea Bazaar	Wattewella
Lindula Bazaar	Dikoya Bazaar
Agra Uva Valley (Company's Estates.)	Norwood do.
Ambagamuwa Bazaar	Cottagalla do. (Bagawantalawa)

and any other central places with which you are acquainted?

b. Give the maximum, minimum, and average rates for each kind of goods for the last two years.

c. What is the usual period of the maximum and of the minimum rate for each kind of goods, respectively?

2 *a*. What are the transport rates per ton for coffee, rice, and manure to and from Nuwara Eliya, respectively, from and to Brookside, Kirklees and Delmar Estates in Uda Pussellawa, and New Galway or Ambawella District, respectively?

b. Give the maximum, minimum, and average rates for each kind of goods for the last two years.

c. What is the usual period of the maximum and of the minimum rate for each kind of goods, respectively?

d. Give the above information as to rates between Gampola and Nuwara Eliya.

3. What is the average yield for the last two years per acre in that portion of the district to be served by the Railway with which you are best acquainted?

4. What traffic rates per ton could be charged on coffee, rice, and manure from each of the following proposed stations on the line, viz.:—

Kuda-oya	Watagoda
Rosita	Nánu-oya
Talawakele	

without incurring risk of loss from competition with other modes of conveyance, and without danger of causing hindrance to the development of traffic?

D.

SUMMARY shewing probable acreage which will use each of the proposed Stations on the Railway Extension to Nanu-oya.

District.	Kuda-oya Station, 22 miles 20 chains from Nawalapitiya.		Rosita Station, 24 miles 40 chains from Nawalapitiya.		Tabawakele Station 29·33 miles from Nawalapitiya.		Watagoda Station, 33·60 miles from Nawalapitiya.		Nanu-oya Station, 41·60 miles from Nawalapitiya.	
	Area cultivated at present.	Additional area to be cultivated.	Area cultivated at present.	Additional area to be cultivated.	Area cultivated at present.	Additional area to be cultivated.	Area cultivated at present.	Additional area to be cultivated.	Area cultivated at present.	Additional area to be cultivated.
	(Coffee.)		(Coffee.)		(Coffee.)		(Coffee.)		(Coffee.)	
Ambagamuwa ..	2797	2000	...	...	.	.	..	...	...	...
Dikoya	23012	3902	..	..	...	.		...	...	.
Maskeliya	15976	6849	..	...	...	.	..	..	..	
Dimbula	1101	100	6566	800	24121	5500	4499	400	3522	2000
Pundalu oya .	...	.	...		..		2952	300	.	..
Udu Pussellawa ...	..	...	...	.	..		...	..	7957	2000
New Galway ...	...	...	.	.	.	.	.	...	700	1500
	42886	12851	6566	800	24121	5500	7451	700	12179	5500

Surveyor-General Office,
Colombo, 8th July, 1878.

A. B. FYERS, LIEUT.-COLONEL, R.E.
Surveyor-General

QUESTIONS SUBMITTED TO WITNESSES.

1 *a*. What are the transport rates per ton for coffee, rice, and manure to and from Nawalapitiya, respectively, from and to the following stations:—

Craigie Lea Bazaar	Wattewella
Lindula Bazaar	Dikoya Bazaar
Agra Uva Valley (Company's Estates.)	Norwood do.
Ambagamuwa Bazaar	Cottiagalla do. (Bagawantalawa)

and any other central places with which you are acquainted?

b. Give the maximum, minimum, and average rates for each kind of goods for the last two years.

c. What is the usual period of the maximum and of the minimum rate for each kind of goods, respectively?

2 *a*. What are the transport rates per ton for coffee, rice, and manure to and from Nuwara Eliya, respectively, from and to Brookside, Kirklees and Delmar Estates in Uda Pussellawa, and New Galway or Ambawella District, respectively?

b. Give the maximum, minimum, and average rates for each kind of goods for the last two years.

c. What is the usual period of the maximum and of the minimum rate for each kind of goods, respectively?

d. Give the above information as to rates between Gampola and Nuwara Eliya.

3. What is the average yield for the last two years per acre in that portion of the district to be served by the Railway with which you are best acquainted?

4. What traffic rates per ton could be charged on coffee, rice, and manure from each of the following proposed stations on the line, viz.:—

Kudu-oya	Watagoda
Rosita	Nánu-oya
Talawakele	

without incurring risk of loss from competition with other modes of conveyance, and without danger of causing hindrance to the development of traffic?

MINUTES OF EVIDENCE.

31st July, 1878.

PRESENT:

Hon. Lieut.-Col. A. B. FYERS, Surveyor-General.
Hon. R. B. DOWNALL, M.L.C.
GEO. S. MURDOCH, Esq.
JOHN DUNCAN, Esq.
W. D. GIBBON, Esq.

Hon. W. H. RAVENSCROFT, Chairman.

A. H. THOMAS, examined.

The Chairman.] 1. I can only give the rates for the first three stations mentioned in Q. 1*a*. For rice and manure from Nawalapitiya to Craigie Lea or Rosita, a distance of 20 miles, the average rate per cart, season 1876-77, was 21 rupees and 37 cents; a cart load of manure is a ton; a cart load of rice is 32 bushels 18¼ cwts., three bushels less than a ton; that would make the rate per ton of rice 23 rupees and 41 cents. The average rate for coffee down from Craigie Lea to Nawalapitiya was 12 rupees and 16 cents per ton. I have estimated 75 bushels go to a ton. A cart takes a good deal more than a ton; say 1 ton 7 cwts. The rates for St. Clair and Talawakele, a distance of 23 miles, were 23 rupees for manure per ton; rice, 25 rupees and 20 cents per ton; coffee, 14 rupees per ton. The Lindula rates, a distance of 26 miles, were 25 rupees and 25 cents per ton of manure; rice, 27 rupees and 67 per ton; coffee, 16 rupees per ton. For Lorne, Caledonia Gap, and Agra, a distance of 32 miles, the rates were—manure, 28 rupees and 72 cents per ton; rice, 31 rupees and 48 cents per ton; coffee, 20 rupees per ton.

Mr. Murdoch.] How have you taken the weight of the coffee?—I have taken the average weight as it leaves the estate.

Mr. Murdoch] We find taking an average on 753,000 bushels, that only 59 bushels go to the ton! [*Witness.*] Of course the coffee gets lighter as it gets dryer. It is much lighter by the time it gets to Colombo, but I thought it best to take the average weight as it leaves the estate.

How many bushels of rice do you calculate to a ton?—35 bushels.

And coffee?—75 bushels.

The Chairman.]—The rates I have given are all for the season 1876-77. I hand in a written return (Appendix AA.) giving the rates for season 1877-78, the average of these four places for two years, and other information.

What quantity of coffee does a cart take?—100 bushels.

Are you prepared to give the rate per bushel?—Yes, taking the two last years together. From Craigie Lea and Rosita to Navalapitiya, 17 cents per bushel of coffee; Talawakele and St. Clair, 20 cents per bushel, Lindula, 22 cents: Lorne or Agra, 27 cents.

[Rates per season, 1876-77, and average for the two years read by witness—see appendix AA.]

1*c*. It is not always the same. It depends on the rush of carts to Nawalapitiya, and so on. The return I have handed in contains the facts in answer to this question. There is no usual period for maximum and minimum rates.

3. The average yield per acre is 4 cwts. The yield for 1877-78 was very low, being only 2½ cwts. per acre; that for 1876-77 was 5½ cwts. per acre. The average over all I should say was 4 cwts. I hand in a return (appendix BB.) of the total acreage of Dimbula, divided into sections, as it will be served by the different stations, shewing the extent of each section under cultivation in coffee, tea, cinchona, &c., also statement of crop for the seasons 1876-77 and 1877-78, with the average for the two years.

4. I have prepared a comparative statement (appendix CC.), of the average cart rates per mile for coffee, rice and manure, and the rate per mile for the same goods on the present line. For coffee (appendix DD.), the average cart rate per ton per mile is 62 cents, the railway rate 14 cents; we then pay 48 cents more for the cwt. than we are charged by the railway. For rice, cart rates 1 rupee and 25 cents, railway 17 cents; difference 1 rupee and 8 cents per ton per mile. For manure, 1 rupee and 14 cents by cart, by rail 8½ cents; difference 1 rupee and 5½ cents. The lowest rates we have ever been able to get goods carried at are these; coffee, 50 cents per mile per ton; 98 cents rice; 90 cents manure. These are all higher than the present railway rates; the excess being 36 cents in coffee, 81 cents in rice, 81½ cents in manure. Were the present railway rates doubled the present minimum cart rates would still be a good deal more than double these increased rates except for coffee, which would just be about double. I think the railway minimum rates could be doubled or even trebled, and still be lower than the minimum rates we have been paying for the last two years. I am of opinion this could be done without fear of competition as it will not pay to keep carts working at the minimum rates for the last two years, as

the cost of food for the cattle has increased. I hand in a statement (appendix EE.) of the expenses for a cart going from Nawalapitiya to Caledonia Gap.

Mr. Gibbon.] Do you think the carts make much profit at the minimum rates you have mentioned ?—No; they cannot work at these rates to pay.

So that the railway rates, if lower than the minimum cart rates you have given, would not allow the carts to carry on work ?—No.

Mr. Duncan.] What can you send coffee down to Colombo for ?—I have paid as high as 52 cents and as low as 42 cents per bushel for coffee from the estate to Colombo. Taking the average of two or three estates some 32 miles from Nawalapitiya, 48 cents has been the lowest rate. A good deal of coffee has been sent down at that rate.

Mr. Gibbon.] You have got grass ?—For a long distance we have got no grass. The fields cannot be kept in good condition. The Sinhalese would rather keep the cattle entirely on poonac than incur the cost of getting grass for them. They could not keep their cattle were they only to be paid three times the present railway rates. I give that as my opinion because I do not believe they make much profit at the average minimum rates I have quoted, and these are much larger than double the present railway rates in rice and manure, and about double in the case of coffee.

Mr Murdoch.] Do you mean the proposed rates on this line could be doubled ?—I have taken the rates on the main line.

Mr. Gibbon.] How many acres do you manure yearly ?—Very little. I have only used fish manure.

Would you use more artificial manure if you could get it brought to the estate at a cheap rate ?—Yes, certainly, I would manure half the estate every year, if I could get the manure up at a cheap rate.

What proportion per acre would you use ?—Say a ton an acre, or nearly that.

More than 50 tons a year, on an estate of 200 acres ?—Yes.

Mr. Downall.] As a rule, you believe the lower the rates for manure are made, the more will the estates be manured ?—Undoubtedly. I would manure the estate three times the extent I do now. I simply cannot afford it now, under present rates of cart hire.

II.—J. MURRAY ROBERTSON, examined.

The Chairman.] 1.—I find it very difficult to answer the question, because in the cart notes the rate is charged right through from the estate to Colombo. We find it very difficult to divide the rate from the estate to Nawalapitiya, from that from Nawalapitiya to Colombo. I have ascertained, however, these rates to Nawalapitiya:—From Norwood the average rate per bushel has been 17½ cents; the rate from the same place right through to Colombo has been 48 cents to 50 cents for coffee. From Craigie Lea the rate to Nawalapitiya has been just a little under 18 cents. There is an estate in that District just close to Craigie Lee which has sent coffee down to Colombo at 48 to 50 cents; and had rice and manure up for Rs. 20 per ton. The carts and bullocks belong to the estate and are let out to a contractor. From Lindula the avarage, so far as I can ascertain, is 20 cents per bushel, but I am not certain about my information. From Ratnagiri gap, 2½ miles beyond Lindula, the rate has been 23 cents. The rates for rice and manure up I have only been able to ascertain from our forwarding agent at Nawalapitiya. To Craigie Lea the rate per ton for manure or rice sent from Nawalapitiya has been 42 rupees maximum; minimum 15 rupees; average, 27 rupees and 57 cents, or a little over 86 cents per bushel for rice, taking 32 bushels to a ton. For Lindula the highest rate has been 45 rupees; the lowest, 16 rupees and 25 cents; average, 29 rupees and 95 cents or 93½ cents per bushel for rice. Agra, 48 rupees highest; lowest, 17 rupees and 50 cents; average, 32 rupees and 5 cents, or say 1 rupee per bushel for rice, Ambagamuwa, 32 rupees per ton highest; lowest, 11 rupees and 75 cents; average, 22 rupees and 9 cents, or 69 cents per bushel for rice, Wattawella, 34 rupees and 62 cents is the highest rate; 14 rupees the lowest.; the average, 24 rupees and 29 cents, or nearly 76 cents per bushel for rice. Dikoya, 38 rupees maximum; minimum, 15 rupees; average, 27 rupees and 18 cents, or within a fraction of 85 cents per bushel for rice. Bagawantalawa or Kottiyagalla, 35 rupees and 50 cents per ton, maximum; 21 rupees lowest; average 23 rupees and 21 cents, or 1 rupee a bushel for rice.

1*b*. They fluctuate every month. It would be very difficult to give any figures. I think the rates are highest when the crop is coming down to Colombo There is no fixed period for maximum or minimum rates.

2.—I am not interested in any of these districts.

2*d*.—Rupees 48 per ton of manure or rice; maximum; minimum, 38 rupees; average, 40 rupees and 29 cents.

Can you give any information as to the corresponding rates on coffee ?—No.

Mr. Gibbon.]—The Pundalu-oya district sends its coffee direct to Colombo by cart to Gampola, and thence by rail at an average rate per bushel of 48 cents. In making estimates we allow 50 cents. The distance from Pundal-oya to Gampola is over 30 miles. The coffee of this district would certainly be sent to the Medakumbura station, of the new line, if a good road were made.

Mr. Murdoch.]—Do you know the up rates?—We have paid 35 rupees a ton for rice via Gampola, and we now estimate the rate at 27 rupees 50 cents from Colombo.

The Surveyor-General.] Is that the maximum ?—That is the most we have *paid*. But at one time we could not get carts to go under 70 rupees. The average last year was 27 rupees from the estate through to Colombo.

The Chairman.] 3. Four and a half cwts is a fair average to take for the whole district through which the railway is to go. Pundalu-oya would give a much larger average yield by itself, some 7 cwts. an acre, but there is not much coffee there.

4. I believe that even if the railway rates were the same as those now charged by the carts there would be no competition. The carts could never compete with the railway.

Mr. Murdoch.] Do you mean the maximum cart rate ?—No. The average cart rates. [Shewn table A. section I., the rates contained in the Railway Commissioners' estimate dated 5th August, 1866.] These rates could be considerably increased.

The Surveyor-General.] You think the Railway rates might be increased to the average cart rates without any fear of competition and without danger of hindrance to the develops ment of the traffic ?—Yes. I think proprietors would refer the despatch and safety of the railway with the average cart rate as the maximum railway rate. They would be better served for a smaller rate putting one thing with another.

RAILWAY EXTENSION COMMISSION. Evidence.

J. NORTHMORE, examined.

The Chairman.] 1. I cannot give the traffic rates per ton for coffee as cartmen carry by the bushel. 58 to 60 bushels go to a ton. I can give the information in regard to bushels. A great many estates pay a through rate to Colombo, and I have difficulty in eliminating the cost from the estate to Nawalapitiya from the whole cost of transport to Colombo. It does not follow that because the cartman accepts the through rate that he exactly considers what he has to pay the railway. If required, I can give information from certain estates (Appendix FF.); what we have paid from the estate to Colombo (Appendix GG.); but for down goods only. For the Dimbula and Dikoya road I assume a cart load of manure as a ton, and 32 bushels of rice as a cart load, although I have frequently loaded 33 bushels. (I hand in a statement of up rates from my forwarding agent, (Appendix HH.)

1*c*. November to April is the period of the maximum rates; May to October the minimum, generally.

2. The transport rate per bushel from Nuwara Eliya to Delmar has stood steady from year to year at 30 cents per bushel. I had this information from a gentleman twenty years resident there.

2*d*. From Nuwara Eliya to Gampola the maximum for the last two years is 25 cents; the minimum 20 cents, average 22½; the present rate is 21 cents. With regard to Brookside, no coffee has yet been despatched by that road. Kirklees coffee is sent to Welimada on the Badulla road. Concerning New Galway, I am unable to lay any information before the Commission.

Can you speak as to the up traffic ?—The transport rates for rice per bushel from Gampola to Nuwara Eliya are, maximum 1 rupee and 12½ cents; minimum 87½ cents; average rate, 1 rupee; present rates 1 rupee. From Nuwara Eliya to Delmar, as I have stated, the rate stands steady at 40 cents. Manure from Gampola to Nuwara Eliya for the last two years has been carried at the following rates: maximum 35 rupees per ton, minimum 27rupees and 50 cents; average 31 rupees and 12½ cents, present rate 30 rupees. From Nuwara Eliya to Delmar the rate for manure has stood steady at 17 rupees and 40 cents per ton. With regard to the other estates I can only repeat the explanation I have already made.

3. I am not very well acquainted personally with any portion of the district intended to be served by the railway, but if the Commission desire I can give them certain information which may be valuable, information I have acquired from certain data in the office. The firm of Sabonadiere and Co., in which I am a partner, are interested in coffee estates in Dikoya, Maskeliya, Bagawantalawa, Dimbula and Uda Pussellawa. The average yield per acre in full bearing for the last two years of those estates in which we are interested, and which have passed two crops through our mills, is in Dickoya 5·10 cwts.; in Bagawantalawa 4·80 cents; Maskeliya 4 cwts.; Dimbula 3·85 cwts.; Uda Pussellawa 5·12 cents. Taking the whole of the estates in these districts which have passed two crops through our mills the average is 4·07 cents. Now, as the Commission must know, these have been two very bad years that we have just gone through. There can be no sort of a doubt as to the accuracy of the figures; they shew the actual amount of coffee shipped, and we know of course acreage in cultivation.

4. I am sorry I cannot answer this question.

Chairman.] Taking the present cost of transport by carts, could you say whether estates would be able to pay the same rates, or anything approaching them for the railway. Would the preference be given to the railway even were the railway rates as high as those you now pay for carts ?—Emphatically so. For coffee and all traffic down it would be most important to gain greater despatch. I could give the figures showing cost of transport to Colombo from certain estates, but I do not know where they would load up.

Mr. Murdoch]. Do you think that if the rates by the railway were materially lower than the present cart rates, that the carters could lower their rates too and compete with the railway ?—I think if the stations chosen are conveniently situated, and no great expense would be incurred in getting the coffee down to the railway, the carts would be run completely off the road. In many cases it would pay the estate to maintain a team of private carts, and they would do so.

Mr. Gibbon.] What portion of the estates do you manure every year ?—There is very great diversity of opinion on the question of manuring. I am an advocate for manuring all through the estate in small doses. It depends entirely on the character of the manure and the character of the soil.

What quantity of manure do you use per acre ?—Half a ton. If castor cake could be used every two years, it would be very beneficial in the districts named, say half a ton an acre every two years.

The Surveyor-General.] Do you think the rates are fictitiously high or that the cartman could reduce them ? If so to what extent ?—I don't know that they are unjust rates, because some years ago I worked my own carts, and to make them pay I had to allow as much as I paid the contractor. The same test would probably apply now.

You don't think the rate of the last two years could be reduced, and allow a profit to the carters ?—I cannot say; there is no data to go on. I am of opinion that, on the average, they are reasonably fair; but at times they are excessively and extortionately high.

Mr. Gibbon.] Do you lose much by short delivery ?—For short delivery by cart we recover full value.

RAILWAY EXTENSION COMMISSION.

EVIDENCE.

T. H. MOORHOUSE, examined.

The Chairman.] 2. Brookside, in Uda Pussellawa District is only a young estate and as yet produces no coffee. The estate of Ragalla pays 52 cents per bushel for coffee to Gampola. That is the average on the last two years. Padiya Pelleda rates are about the same. From Delmar estate the rate is about 65 cents; also the average for two years. New Galway I cannot speak of. Amhurst estate, Waldema Stokehill, and several other estates in the same valley, in Uda Pussellawa, pay 57½ cents, or have paid that on an average for the last two years for the transport of their coffee to Kandy or Gampola. Just now the rate is 53½ cents. These estates all send coffee by both routes, via Wilson's Bungalow and Padiya Pelleda. The cost is the same. Kirklees sends coffee to Wellimada. To Gampola the rate is 56 cents per bushel. Direct to Colombo 80 cents. These are the ruling rates for the last two years. Beckington estate pays three cents more.

Mr. Downall.] In the event of the railway being made, and the new road finished to Nuwara Eliya, would the district use the road?—I think the estates in Uda Pussellawa would use the railway. In fact, at a recent meeting it was considered and agreed that we should.

Mr. Gibbon.] You would prefer using your own carts to Nanu-oya to getting hired carts to go to Nuwara Eliya?—Yes.

The Chairman.] Can you give the Commission the rates for rice and manure?—The average rate for rice is 1 rupee and 50 cents per bushel from Gampola; and manure costs us 35 to 45 rupees per ton, taking the centre of the district, in the valley. From Colombo to Kirklees it costs for transport 70 rupees per ton. We get some by each route. There is very little difference in the cost. We choose the route according to the weather, changing the road as the season changes.

Are these the average rates?—They have been the ruling rates for two or three years. Coffee has not varied a cent for three years.

2*d.* Coffee from Nuwara Eliya to Gampola is 23 cents per bushel by one route, and by the other 19 cents. The difference is made up in tolls.

Mr. Downall.] Have you any figures as to the up traffic?—Rice up is 1 rupee to 1 rupee and 12 cents per bushel; from Gampola to Nuwara Eliya the rates for manure I do not know. The maximum cart hire between these places is 50 rupees. The average fair cart hire is 45 rupees. This would also be the rate for sundries and general merchandise.

The Chairman.] The average yield of the whole district has been 6 cwts. per acre for years, as near as I can make it. The new estates give far more than this, but there are many old estates which bring down the average. Some new estates give seven and eight cwts. My own place gives seven and one-third cwts. Young estates just into bearing give eight to ten cwts. per acre.

4. I don't know what rates could be charged from the new stations along the line; at present the average rate by cart is three-quarter cents per mile per bushel.

Mr. Murdoch.] Leaving a margin for the cost of bringing the coffee from the estate to the railway, if the whole cost by rail was not greater than what you pay now by cart, would you use the railway?—Certainly.

Mr. Gibbon.] If the manure was brought up to the estate more cheaply, would you use more?—Certainly.

What proportions?—It depends upon circumstances.

Would a ton for every four acres in the district be a fair average?—It would be a large average just now, but later on it would be about the mark. We have many young estates. In four or five years we shall require more manure. When an estate has borne pretty good crops for some years, we begin to manure a half every year.

T. G. CHARTER, examined.

I am forwarding agent of the Ceylon Company, Limited, at Nawalapitiya.

The Chairman.] I hand in a return of the maximum and minimum average rates for each month of the last two years. It only relates to up traffic. (Appendix II.)

Can you give the Commission any information as to the rates on coffee?—I could not make out returns for coffee as the rates so vary. From an estate at the further end of Lindula, Hopewell estate, (35 miles) the rate was 19 cents per bushel last year. From Devon (21 miles) the rate was 21 cents. From an intermediate estate, Derryclare 25 cents per bushel. These rates are to Nawalapitiya.

Can you give the average rate per bushel per mile?—I am not prepared to give that. It runs from 19 to 25 cts. to Nawalapitiya, whatever the distance may be. That would be say a cent per mile per bushel.

The Surveyor-General.] Can you give any reasons for this confusion of rates: I mean there being apparently no fixed rate per mile?—Simply the superabundance of carts up-country.

Mr. Gibbon.] Does the coffee from different estates arrive at different times?—You may get coffee from different estates at the same time.

The Surveyor-General.] Do these different rates rule at the same time?—I cannot say they were in the same month, but they were in the same crop.

2. *The Chairman.*] I cannot answer the first part of the question, but I hand in returns of the rates between Gampola and Nuwara Eliya.

2*c.* I cannot give any definite information; it depends on the condition of the roads, the number of carts and whether down at Navalapitiya or at the other end, cattle disease, and so on.

4. If the railway rates were the minimum cart rates there would be no competition whatever.

ARTHUR GRAY, examined.

The Chairman.] You are Assistant Superintendent of the Elphinstone store at Nawalapitiya? Yes.

a 1.—I hand in a list of the average rates required by the question (appendix KK.); they are for the last two years. Only the rates for manure and rice are shewn. It is difficult to average the rates for coffee; they vary so greatly. On the same day from adjoining estates some people pay more or less. The maximum and minimum are as follows:—

Craigie Lea; maximum 2 rupees 20 cents per bushel, minimum 18 rupees.

Lindula, maximum 20 cents, minimum 20 cents; Agra Uva, maximum 28 cents, minimum 25 cents. From Ambeganuwa I have never received coffee; nor from Wattawelle. Dikoya, maximum 22 cents, minimum 20 cents; Norwood, maximum 22 cents, minimum 20 cents. From Kottiyagalla I have never had coffee.

1*c*. I cannot fix when these periods come round. The maximum period lasts some 15 days.

3. We have no means of getting this information.

4. No carts, to pay their owners, could take goods up to Kuda-oya under 24 rupees per ton from Navalapitiya. They might bring down coffee, and try to make it pay, for 18 rupees to 25 rupees per ton.

Mr. Murdoch.] Could they charge less than 18 rupees and make a profit?—No.

The Chairman.] If the railway charged the present cart rates, the average rates, could the carts compete?—No; people would prefer the railway, because much less time would be occupied.

C. W. HORSFALL, examined.

The Chairman.] 1. The maximum rate for coffee from Craigie Lea to Nawalapitiya is 12 rupees; minimum 8 rupees and 40 cents, the average 11 rupees and 20 cents. This average is calculated on the quantities which are actually carried at each rate. From Wattawella the maximum rate is 9 rupees and 60 cents, the minimum 6 rupees, average 7 rupees and 20 cents. From Dikoya bazaar the average is 9 rupees and 35 cents. From Norwood bazaar the maximum rate is 12 rupees and 10 cents, the minimum 9 rupees and 25 cents, the average 10 rupees 67 cents.

1*c*. The usual period for maximum traffic up (manure) is from January to April; but this year it was very abnormal. The down traffic of course is at its height in crop time.

2*d*. From Gampola to Nuwara Eliya the rate for a ton of manure or rice is 48 rupees, pretty nearly the same rate as from Nawalapitiya to Craigie Lea.

3. In Dikoya most of our estates are young estates, and it is hardly fair to judge by them. I think the general average is about 4·7 cwts. an acre for the last two years. In Dimbula the average is about 5 cwts.

4. It would be a difficult matter to make suggestions. We know what we have to pay just now. We pay 30 rupees per ton for goods up, and 10 rupees per ton down. Add these together and divide by two, and that will be what we should pay on the goods either way.

Mr. Murdoch.] If the aggregate up and down rates did not exceed the present rates both ways, you would use the railway?—We would be very glad to do so.

Witness.] I think it has been the custom on the existing line to forward from Colombo all manures at a much smaller rate per ton than any other goods. If the rate for coffee down is such that any cartman could compete with the railway I think the rate should be lowered, and the difference could be met by increasing the rates for manure.

Mr. Downall.] But the carters can never compete with the down traffic if they are to get no load up? The carts cannot work only one way.

Mr. Gibbon.] What proportion of the estates do you manure every year?—I suppose we should be sending up to our estates in Dikoya this year 500 tons of manure.

What acreage have you?—700 acres in cultivation.

Would the use of manure be much increased by the railway?—Most probably; at present the manuring is limited only by the expense.

What proportion of the estate do you annually manure?—Quite one-half every year. On many estates we go over all.

Would a ton for every four acres over all be a fair average?—Yes.

TANTIRI MUDALIGE DON CORNELIS, examined.

The Chairman.] You bring coffee down and take rice and manure up to the estates?—Yes to and from Colombo.

What rate do you charge from Nawalapitiya to Craigie Lea?—I am a Colombo man, and send only from Colombo.

You bring coffee down?—Yes. What does it cost you to bring it to Nawalapitiya from Craigie Lea? Twenty-five cents per bushel.

Would it pay you to carry it at a lower rate than that?—No.

Mr. Murdoch.] Do you carry coffee right through to Colombo?—Yes. What do you charge from Craigie Lea? Fifty cents to Fifty-eight cents.

The Chairman.] What is the highest rate?—Fifty-eight cents, never more. I charge from Nawalapitiya to Craigie Lea 30 rupees to 40 rupees for a ton of manure or thirty bushels of rice.—

What road do you generally work on?—The Ratnapura and Haldummulla road and the Kandy road.

How much do you charge for coffee coming from Badulla. Last month the rate was 66 cents a bushel.

Badulla to Haldummulla?—Fifty-four cents.

Mr. Downall.] Do you never charge one rupee from Badulla?—Never since the construction of the railway.

The Chairman.] What do you charge for rice to Badulla?—66 rupees a cart load; that is 25 bushels or 15 cwts.

And manure?—85 rupees per 15 cwts; a cart load is one ton.

RAILWAY EXTENSION COMMISSION.

EVIDENCE.

G. A. TALBOT examined.

The Chairman.] 1.—I have only been aware for a short time that I had to give evidence, and have not had time to prepare returns from my books, but I have written down some of the rates from memory. The maximum rate per ton at 5 bushels to the cwt. from Craigie Lea is 21 rupees and the minimum 12 rupees. From Lindula the rate is 25 rupees maximum, 20 rupees minimum. Dikoya, 23 rupees maximum, 15 rupees minimum. Manure and rice are about the same going up by the cart load to Craigie Lea; the maximum is 37 rupees, the minimum 13 rupees. Within the last two years the rate between Nawalapitiya and Dimbulla varied as much as from 13 rupees to 37 rupees owing to the demand for carts at Nawalapitiya. From Nawalapitiya to Dimbulla the maximum was 12 rupees; the minimum 15 rupees. To Dikoya, maximum 38 rupees, minimum 13 rupees.

1c. I cannot say how long the maximum and minimum periods last. The maximum rate for coffee down varies of course with crop. I should say it is highest in December; manure varies too, I should say it is highest in May. The rates are greatly affected by cattle disease on the road. There is no constant time that can be calculated on.

3. In Craigie Lea, which I know best, the average yield is 4½ cwts.

Mr Downall.] In Dikoya and Maskeliya, you know estates—Darawella for instance?—Yes; the average yield there is about 4¼ cwts an acre.

The Chairman.] 4. From Kuda-oya the rate for coffee could be 9 rupees; and for rice and manure 11 rupees. From Rosita the rates should be somewhat less, say 8 rupees and 50 cents and 7 rupees and 50 cents nearer Nawalapitiya. It would be sooner by the road and longer by the rail, and there might be danger of competition by the carts. Really Kuda-oya is 25 miles further away by the road which is now being made. From Talawakele the rates could be coffee 12 rupees, manure and rice 15 rupees; Nanu-oya coffee 15 rupees, manure and rice 17 rupees.

Mr. Downall.] At such rates you do not think the carts could complete?—No.

The Chairman.] Do you think the carts would have a chance if the railway were to cost as much as the average cart rate?—Yes, they would have a chance if the estate is far from the station if it would cost much to bring the goods from or to the line. If the estate keep their own carts?—Then they would send to Nawalapitiya instead of sending to the station on this line.

Do you think much profit is made out of the carts. Could they reduce this rate and go on working?—No; carts have hardly paid even at the very high rates ruling during the past two years.

Mr. Gibbon.] What portion of your estate do you manure every year?—I am in a comparatively new district; about one-half with artificial manure.

What quantity per acre?—Say three-quarters of a ton.

A ton an acre would not be a large average for the district?—It would not.

August 1, 1878.

PRESENT:

Hon. LIEUT.-COL. A. B. FYERS, Surveyor-General.
Hon. R. B. DOWNALL, M.L.C.
GEO. S. MURDOCH, Esq.
GEORGE WALL, Esq.
JOHN DUNCAN, Esq.
W. D. GIBBON, Esq.

Hon. W. H. RAVENSCROFT, Chairman.

G. H. D. ELPHINSTONE examined.

The Chairman.] 1. I shall submit answers to this question in writing.

2. I hand in a Memo. from a planter in Nuwara Eliya in answer to this question (Appendix LL.) With regard to the first question I known what the rates have ranged between during the last four years; 12 rupees and 56 rupees per ton. It is when there are stoppages on the railway and when the roads get into disrepair that these high figures are reached. These figures are for transport between Nawalapitiya and Dimbula. Before the railway was made 60 rupees was paid for 90 miles' conveyfrom Colombo.

If the charges were the same as the average cart charges, would the traffic be sent by the railway?—I have not the slightest doubt of it.

3, I believe the average yield is from 3 cwts. to 4 cwts., taking the old and new estates together. Some of the estates have an average yield of 7 to 8 cwts. an acre; but 3 or 4 would be a fair average over all.

4. You could not have any competition; all the goods would come by the railway were the rates even as high as the cart rates. It was the Kadugannawa Pass that made the present line pay as it has done. If the rates were level the carts could never compete. There could not possibly be opposition. The carts cannot remain on the road after the railway is opened. I don't think there is the slightest fear of a single cart ever taking a load of coffee or manure from the railway.

Mr. Wall.] If the railway rates were the slightest degree lower than the cart rates, the planters would approve of the railway and support it?—Decidedly. But the rates must be as low as possible, all the same.

If the average of the last two years were taken as the railway rates the districts would approve of it?—The last two years the rates have been particularly high. I should say the average of the last four years. Last year I myself lost 60 head of cattle.

Mr. Murdoch.] Can you give the commissio the rates for the last four years?—I shall send them in in writing.

Witness.] 60 bushels of coffee go to a ton; at 6*d.* a ton to Nawalapitiya, a distance of 25 miles, we have 30*s.* or 15 rupees a ton. Rice, 32 bushels a cart load, costs 32 rupees for cart hire, that is a Government load. They take a load and half, say 42 bushels, but they charge on the 32 bushels. That is the cheapest rate. Last year I paid 60 rupees. Manure costs 50 rupees a ton, and I believe coffee averaged a shilling a bushel. I shall send in full figures from my store.

Mr. Gibbon.] What proportion of your estates do you manure every year?—One-half of the estate with artificial manure.

What quantity an acre?—A ton an acre.

What acreage have you manured this year?—In Dimbula 1,500 acres this year, where it has cost me for carting some 40 rupees or 50 rupees per ton.

If the railway were made, would the cheaper rate at which you could send manure to the estate lead to much more manure being used?—Certainly, there would be a great deal more used.

Is the rate of a ton for every nine acres of land under the mark?—Greatly under the mark. I should say one-fourth of the district would be manured every year.

Mr. Downall.] If the rates in schedule A. were increased for manure by 40 per cent., would the same quantity go over the line? The cheaper the rate the more manure will go to the estates I think.

Take table B. in the report on the table. Would these rates be prejudicial to the interests of the line?—They certainly would not. The cartmen could never make their living at the railway rates for transport. It costs 3 rupees a day to keep a bullock and cart. There are the deaths among the bullocks and other risks to include in the cost.

RAILWAY EXTENSION COMMISSION.

EVIDENCE.

APPENDIX:

A A.

NOTES:—CART HIRES in 1876–77 and 1877–78.

			Rs. Cts.
Craigie Lea and Rosita ...	17 cents per bushel, coffee ...		12 60 per ton.
Talawakelle and St. Clair...	20	„ ...	14 0 „
Lindula	22	„ .	16 0 „
Lorne or Agra ...	27	„ ...	20 0 „

The above is about the average for the two years, as near as possible.

A bushel of rice weighs 64 lbs.
do. coffee „ 30 lbs.

There are 35 bushels rice in a ton.
do. 75 coffee do.

A cart load of rice is 32 bushels, 3 less than a ton
do coffee is 75 to 100, about 25 over a ton.

B.

STATEMENT of Crop for the Seasons 1876-77 and 1877-78 and the average of Crop for the 2 years.

Sections.	Rosita Section.	Talawakele.	Watagoda.	Nanu Oya.	Totals.
Total Acreage	9,247	20,774	2,641	7,489	40,151
Average of crop per acre, 1876-77. ...	5½	5½	5½	5½	5½
Total cwts : of Coffee, 1876-77	50,858	114,257	14,525	41,189	220,830
Total tons of Coffee, 1876-77 ...	2,542	5,713	726	2,059	11,041
Average of crop per acre, 1877-78.. ...	2½	2½	2½	2½	2½
Total cwts, of coffee, 1877-78 ...	23,117	51,935	6,602	18,722	100 377
Total tons of coffee, 1877-78 .. .	1,156	2,597	330	936	5,019
Average of crop per acre for the two years...	4	4	4	4	4
Total cwts of coffee do.	36,988	83,096	10,564	29,956	160 604
Total tons of coffee do ..	1,849	4,155	528	1,498	8,030

C C.

STATEMENT of Cart Hire per ton to and from Dimbula District.

	Stations where Average Cart Hire has been taken.			
	Rosita and Cragie Lea.	Talawakelle and St. Clair.	Lindula.	Lorne, Caledonia, and Agra.
SEASON, 1876—1877.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
Average hire per cart and per ton of manure, and average per load of 32 bushels of rice	21 37	23 0	25 25	28 72
Average hire for a ton of rice	23 41	25 20	27 67	31 48
Average hire for a ton of coffee: a cart load averages a good deal more, as a cart takes about 1 ton 7 cwt.	12 60	14 0	16 0	20 0
SEASON, 1877—1878.				
Average hire per cart and per ton of manure, and average per load of 32 bushels of rice.	30 42	32 77	34 30	37 77
Average hire for a ton of rice	33 44	35 93	37 59	41 39
Average hire for a ton of coffee: a cart load of coffee averages a good deal more, as a load is 1 ton 7 cwts.	12 60	14 0	16 0	20 0
AVERAGE FOR TWO YEARS.				
For manure	25 89	27 88	29 77	33 24
For rice	28 37	30 56	32 63	36 43
For coffee	12 60	14 0	16 0	20 0
Average distance from Nawalapitiya, miles...	21	23	26	32

C.—*Continued.*

	Stations where Average Cart Hire has been taken.			
	Rosita and Cragie Lea	Talawakele and St. Clair.	Lindula.	Lorne, Caledonia, and Agra.
	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
AVERAGE PER MILE.				
For Manure	1 23	1 21	1 14	1 4
For Rice	1 35	1 32	1 25	1 14
For Coffee	0 60	0 61	0 62½	0 62½

Maximum rate of cart hire, Rs. 1·66 per ton per mile. Period of maximum rate, in April, 1877, in February, 1878.—Rates for manure only.

Minimum rate of cart hire Rs. 0·90 per ton per mile. Period of minimum rate, in November, 1876, in May, 1878.—Rates for manure only.

Maximum rate for coffee was Rs. 0·67 per ton per mile. Period of maximum, in January, 1877, and also in January, 1878.—Rates for coffee only.

Minimum rate for coffee was Rs. 0·50 per ton per mile. Period of maximum, in May, 1877, and in March, 1878.—Rates for coffee only.

Maximum rate of cart hire Rs. 1·81 per ton per mile. Period of maximum rate, in April, 1877, in February, 1878.—Rates for rice only.

Minimum rate of cart hire Rs. 0·98 per ton per mile. Period of minimum rate, November, 1877, and May, 1878.—Rates for rice only.

D D.

NOTES.

Present Line Nawalapitiya to Colombo,
do. Colombo to Nawalapitiya.

Coffee.—Rates, 2nd class goods: Per ton, Nawalapitiya to Colombo, distance 87 miles, 12 rupees 25 cents and or about 14⅛ cents per mile per ton.

Rice.—Rates, 2nd class goods: Per ton, Nawalapitiya to Colombo, distance 87 miles, 14 rupees 70 cents and or about 17 cents per mile per ton.

Manure.—Rates, 3rd class goods: Per ton, Nawalapitiya to Colombo, distance 87 miles, 7 rupees 35 cents and or about 8½ cents per mile per ton.

Cart rates per ton per mile, 62 cents for coffee.
Railway rates do 14 do.

48 cents more for carts.

Cart rates per ton per mile, Rs. 1·25 for Rice
Railway rates do „ 0·17 do.

Rs. 1·08 more for carts

Carts rates per ton per mile, Rs. 1·14 for manure.
Railway rates do „ 0·08½ do.

Rs. 1·05½ more for carts.

Average minimum rates per ton:	Coffee. Rs Cts.	Rice. Rs. Cts.	Manure. Rs. Cts.
Minimum rates per carts ...	0 50 ...	0 98 ...	0 90
Present Railway rates ...	0 14 ...	0 17 ...	0 08½
Cart rates in excess ...	Rs. 0 36 ...	0 81 ...	0 81½

	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Present rates Railway ...	14 ...	17 ...	08½ per ton.	14 ...	17 ..	08½
Add double ..	14 ...	17 ...	08½			3 times
	28 ...	34 .	17	40 ...	50 ..	25

The lowest rates we have been able to get goods carried is as follows:—

Rs. 0·50 cents coffee down ... Rs. 0·98 cents rice up ... Rs. 0·90 manure.

The present Railway rates are:—

Rs 0·14 coffee ... ... Rs. 0·17 rice ... Rs. 0·08½ manure.

If the Railway rates are doubled or

Rs. 0·28 coffee ... ... Rs. 0·34 rice ... Rs. 0·17 manure.

The present rate of cart hire would still be a good deal more than double the increased railway rates, with the exception of coffee which would be just about double.

Therefore I think the rates could be doubled or indeed trebled, and still be lower than the minimum rates we have been paying the last two years. I am of opinion this could be done without fear of competition, as it will not pay to keep carts working and my getting the minimum rates for the last two years, as the cost of food for cattle have increased.

RAILWAY EXTENSION COMMISSION.

APPENDIX.

E E.

EXPENSES for a Cart for going and coming from Nawalapitiya to Caledonia Gap.

(At the average of nine days.)

	Rs.	Cts.
Toll, going and back	2	0
Shed room, 16 cents per day	1	44
Straw, ten bundles a day, say 100 at 7 rupees	7	0
Oil, one measure at 50 cents	0	50
Ghee	0	12
126 lbs. of poonack (gingelly) at 7½ cents, at 14 lbs. per day	9	45
27 lbs. of poonack (cocoa) at 7 cents, at 3 lbs. per day	1	89
¼ bushel of colloo at 4 rupees per bushel	1	0
One-third of shoeing, at 2 rupees per shoe	0	67
Cart kangani's pay for nine days	1	0
Driver's do.	5	0
Cooly for boiling colloo, &c.	0	50
Repairing wheels, poles, &c.	0	43
	Rs. 31	0 for nine days
31·00 ÷ 9 =	Rs. 3	44 for one day

NOTES.—Including loading and unloading at both ends, a cart will not do more than 7 miles a day. A cart costs this year 3 rupees and 44 cents per day at the present price of straw and poonac; it would not pay to keep carts out of crop if hire was reduced to the minimum rate for the two years.

The above shews that carts cost about 49 cents per mile, doing 7 miles a day at the cost of 3 rupees and 44 cents per day. At present we get 35 rupees per cart for 31½ miles (or calculating empty cart going) 63 miles, therefore 63 miles at cost of 49 cents per mile comes to 31 rupees and 87 cents, leaving a profit of 3 rupees and 13 cents per cart

F F.

Through Transport Rates per Bushel of Parchment Coffee to Colombo.

	During Crop, 1876-1877, Average rate.			During Crop, 1877-78, Average rate.			District Average on two Seasons.	
	Max. Cts.	Min. Cts.	Through Season. Cts	Max. Cts.	Min. Cts.	Through Season Cts.	Crop 1876-77. Cts.	Crop 1877-78. Cts
From Dimbula.								
Cameron's Land	50	45	about 48	50	—	about 50		
Kattuk Ela and Cwm	54	50	„ 53	51	—	„ 51		
Drayton	54	46	„ 50	—	—	—		
Dennistow	54	—	„ 54	48	—	„ 48		
Forest Creek	54	46	„ 50	50	—	„ 50		
Wellington	50	—	„ 50	50	48	„ 49		
Yuillefield	45	—	„ 45	50	—	„ 50	50	49½
From Lindula								
Agrakanda	58	46	„ 51½	50	—	„ 50		
Aldourie	58	50	„ 54	56	—	„ 56		
Avoca	62	50	„ 55	58	—	„ 58		
Carlabeck	62	60	„ 61	54	50	„ 52		
Clarendon	64	—	„ 64	—	—	„ —		
Dessford	62	50	„ 56	58	—	„ 58		
Lorne	62	50	„ 58	58	—	„ 58		
Langdale	62	60	„ 61	54	50	„ 54		
Somerset	60	56	„ 58	54	—	„ 52		
Fassifern	—	—	„ —	50	—	„ 50		
Newton	—	—	„ —	50	—	„ 50	58	54
From Dikoya								
Bathford	52	46	„ 49	46	—	„ 46		
Berat	51	50	„ 50	46	—	„ 46		
Fruit Hill	54	—	„ 54	48	—	„ 48		
Glencairn	—	—	„ —	50	48	„ 49	51	47
From Maskeliya.								
Caskieben	—	—	„ —	54	—	„ 54		
Leaston	—	—	„ —	54	—	„ 54		
Maskeliya	—	—	„ —	54	50	„ 52		
Rickarton	—	—	„ —	54	50	„ 52		
Rutherford	—	—	„ —	50	—	„ 50		
Stockholm	—	—	„ —	52	—	„ 52	—	52½

UP GOODS FROM NAWALAPITIYA.

The rates charged by a firm of forwarding Agents, employed by Sabonadiere and Company were as follows :—

For thirty-two bushels of rice or for a ton of manure, in both instances assumed as a cart-load :

	From 1st July, 1876, to 1st July 1877.		From 1st July, 1877, to 1st July, 1878.		Average of the Maximum and Minimum, of two years
	Maximum.	Minimum.	Maximum	Minimum	
	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
From Nawalapitiya to Ceylon Lea	28 0	15 0	40 0	24 50	26 87
Do. Lindula	32 0	18 0	46 0	28 50	31 12
Do. Aru-Uva	34 50	18 0	47 0	30 0	32 37
Do. Dik-oya	30 0	17 50	37 50	26 0	27 75
Do. Norwood	34 0	18 50	41 0	27 0	29 87
Do. Cottingala	36 0	20 0	46 3	29 0	32 75

Regarding Ambagamuwa and Wattawelle no information has been supplied to me.
Maximum rates ruled from November to April.
Minimum rates ruled from May to October.

H H.

AVERAGE RATES of Cart-hire from Nawalapitiya.

Months	Agrapatana.	Lindula.	Dimbula.	Ambagamuwa.	Wattawella.	Dikoya	Bagawantalawa.
1876.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
July	28 50	25 75	24 50	24 0	25 0	27 0	31 0
August	33 0	32 0	29 25	27 75	29 0	31 75	32 50
September	29 75	25 50	23 50	18 12	19 50	21 75	24 0
October	17 50	16 25	15 0	11 75	14 0	15 0	21 0
November	19 75	20 0	16 0	13 12	15 50	17 0	21 0
December	24 0	22 50	19 37	16 6	18 0	20 0	25 25
1877.							
January	26 0	24 50	21 0	18 0	20 0	22 50	28 12
February	27 0	25 0	23 0	17 50	20 0	[illegible]	26 78
March	28 50	26 25	25 0	20 0	22 0	26 0	27 75
April	31 0	26 25	25 0	21 0	23 25	26 0	35 0
May	33 75	30 0	29 25	22 0	24 12	28 0	35 0
June	33 50	30 0	28 50	21 75	24 0	26 50	32 50
July	32 50	29 50	28 0	21 87	24 12	27 50	33 25
August	38 0	35 0	32 50	26 50	29 12	32 0	36 75
September	34 50	31 75	30 0	24 0	25 75	30 0	36 0
October	30 0	28 75	25 50	20 50	22 75	26 0	30 25
November	35 0	32 75	30 0	24 0	26 37	30 0	34 75
December	40 0	37 50	35 0	25 25	27 50	33 0	40 0
1878.							
January	46 50	42 50	41 0	32 0	34 50	38 0	44 0
February	48 0	45 0	42 0	32 0	34 62	38 0	45 50
March	39 50	37 50	32 25	25 62	27 87	29 75	36 0
April	35 0	32 25	29 0	22 0	25 0	29 0	32 37
May	33 0	30 0	28 0	20 0	22 87	25 75	33 0
June	35 0	32 50	30 25	25 37	28 25	30 0	33 0

N.B.—A cart load of Manure or Poonac = 1 ton, Rice = 32 bushels. Cases of sundries or furniture, by bulk, &c.

Agrapatana	—	Highest	...	48 0	per ton of manure, or rice 32 bushels
Do.	—	Lowest	...	17 50	
Do.	—	Average	...	32 5	Rs. 1 per bushel.
Lindula	—	Highest	..	45 0	
Do.	—	Lowest	...	16 25	
Do.	—	Average	...	29 95	Rs. 0·93 19/32 per bushel.
Dimbula	—	Highest	.	42 0	
Do.	—	Lowest	...	15 0	
Do.	—	Average	...	27 57	Rs. 0 86 5/32 per bushel.
Ambagamuwa	—	Highest	...	32 0	
Do.	—	Lowest	...	11 75	
Do.	—	Average		22 9	Rs. 0·69 1/32 per bushel.
Wattawella	—	Highest	..	34 62	
Do.	—	Lowest	...	14 0	
Do.	—	Average	...	24 29	Rs. 0·75 29/32 per bushel
Dikoya	—	Highest	...	38 0	
Do.	—	Lowest	..	15 0	
Do.	—	Average	.	27 18	Rs. 0·84 30/32 per bushel.
Bagawantalawa	—	Highest	...	45 50	
Do.	—	Lowest	...	21 0	
Do.	—	Average	..	32 28	Rs. 1·0 28/32 per bushel.

I I.,

Memorandum of Maximum, Minimum, and Average Rates of Cart Hire per ton of Goods or 32 bushels of Rice to the following places, from 1st June, 1876, to 25th July, 1878.

	To Craigie Lea* Bazaar.			Lindula Bazaar.			Agra Lea Valley			Amonmunowa Bazaar			Dikova Bazaar.			Norwood Bazaar.			Cottiagalla Bazaar.			Wattawella Bazaar.		
1876.	mx.	mn.	av	mx	mn	av	mx.	mn.	av.	mx	mn	av.	mx.	mn.	av.	mx.	mn.	av.	mx.	mn.	av.	mx	mn	av.
June ...	24	17	20	25	23	21	27	23	25	8	6	7	22	16	19	25	19	22	27	23	25	20	14	17
July ...	28	23	26	34	25	30	37	27	32	9	8	8	30	22	25	32	21	27	36	28	32	28	20	35
Aug ...	32	28	30	34	33	30	38	33	36	8	8	8	33	30	31	35	32	33	37	34	36	30	28	29
Sep. .	26	17	21	36	22	26	32	21	25	6	6	6	26	17	21	22	19	20	33	26	30	20	14	17
Oct. ..	17	17	17	20	19	19	22	22	22	6	6	6	18	17	18	19	18	19	23	22	22	16	14	15
Nov ...	17	16	16	20	19	20	23	22	22	6	6	6	17	16	16	19	18	18	24	22	23	15	14	15
Dec ...	22	19	20	24	21	23	27	24	25	8	6	7	20	19	20	22	21	21	25	23	24	16	15	16
1877.*																								
Jan. ..	24	20	22	26	24	25	34	29	32	9	8	8	25	20	24	27	23	25	36	30	33	18	18	18
Feb. ...	23	22	23	25	21	25	33	20	30	8	8	8	23	22	22	24	24	24	34	27	30	17	16	16
Mar. ..	28	22	25	32	26	24	35	28	31	10	8	9	29	23	26	30	26	28	36	28	32	25	20	22
April	29	26	27	32	30	31	36	33	34	10	8	9	30	28	29	31	30	32	38	34	36	25	22	23
May ..	30	28	29	35	30	33	37	35	36	9	9	9	30	28	29	31	30	32	38	37	38	25	25	25
June ..	28	27	27	34	30	32	36	31	35	8	7	8	30	26	28	33	28	31	37	35	36	24	22	23
July ...	28	27	28	35	30	32	37	36	36	8	6	7	30	27	28	31	29	30	37	37	37	25	24	25
Aug. ..	34	33	33	38	35	36	39	36	37	10	7	8	32	30	31	35	33	34	40	39	40	29	25	27
Sep. .	34	32	33	38	32	35	36	29	33	9	9	9	32	29	30	35	35	35	41	39	40	28	27	28
Oct	30	26	28	33	28	30	34	30	32	8	8	8	30	27	28	31	29	30	36	33	35	26	23	24
Nov. ..	32	30	31	36	34	35	37	34	35	10	10	10	31	30	30	34	34	34	38	37	32	28	28	28
Dec . .	34	32	33	36	32	34	42	35	33	10	10	10	33	30	31	36	32	34	43	37	40	29	28	28
1878																								
Jan. . .	40	39	39	46	42	44	47	45	46	11	10	11	40	36	38	42	38	40	48	46	47	30	29	30
Feb. ..	40	39	38	46	42	44	48	47	47	10	10	10	40	40	40	42	41	41	51	48	48	29	29	29
Mar....	39	42	40	42	46	44	47	48	47	10	10	10	40	37	39	41	40	40	48	50	49	28	33	30
April. .	42	28	35	46	37	41	48	40	44	10	8	9	37	30	34	40	33	36	50	45	48	33	27	30
May ...	33	30	32	37	36	36	38	38	38	8	7	8	29	27	28	33	32	32	38	37	33	25	25	25
June .	29	28	28	34	32	33	37	35	36	8	8	8	29	25	27	31	30	30	38	38	38	26	25	25
July	30	28	29	33	32	32	34	33	34	6	6	6	30	29	30	33	30	31	36	36	36	25	21	24

J J.

Average Rates of Cart Hire from Gampola per ton.

Months.		To Nuwara Eliya. Rs. Cts.	To Ambawella. Rs. Cts.	To Welimada. Rs. Cts.
June,	1876	39 0	40 0	50 0
July,	"	39 0	39 0	50 0
August,	"	39 0	39 0	50 0
September,	"	39 0	39 50	60 0
October,	"	39 0	50 0	60 0
November,	"	39 50	50 0	60 0
December,	"	39 0	50 0	60 0
January,	1877	39 0	—	—
February,	"	39 0	—	—
March,	"	39 0	—	—
April,	"	39 0	—	—
May,	"	39 75	46 0	—
June,	"	39 0	50 0	—
July,	"	39 0	50 0	60 0
August,	"	39 0	50 0	60 0
September,	"	39 0	50 0	60 0
October,	"	39 0	50 0	60 0
November,	"	38 0	49 0	60 0
December,	"	41 0	50 0	65 0
January,	1878.	47 0	50 0	75 0
February,	"	47 0	—	75 0
March,	"	47 0	—	75 0
April,	"	45 0	—	—
May,	"	47 0	62 0	—
June,	"	48 0	—	—

K K.

RATE of Cart Hires, 1st July, 1876, to 30th June, 1878.

District.—Dimbula.*	Lindula Bazaar.	Agrapatanas.	Ambaganuwa Wattewella.	Dikoya Bazaar and Norwood.	Bogawantalawa, Cottiagalla.
	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
July, 1876	23 80	26 0	28 10	25 0	27 25	30 0
August ,,	29 0	31 50	33 0	28 0	31 50	33 0
September ,,	23 67	25 36	30 50	18 0	21 70	23 0
October ,,	14 80	16 50	17 25	12 0	15 50	20 0
November ,,	16 17	19 20	19 84	13 0	16 75	22 0
December ,,	19 29	22 75	23 75	16 0	19 0	25 0
January, 1877	22 0	24 40	25 80	19 0	22 0	27 0
February ,,	23 17	25 50	27 25	19 0	22 0	27 0
March ,,	24 75	26 33	28 40	21 0	25 0	28 0
April ,,	25 50	26 0	31 50	22 0	26 67	34 0
May ,,	29 33	30 25	34 0	22 0	27 50	35 0
June ,,	28 57	30 0	33 33	22 0	26 86	33 0
July ,,	27 0	29 0	32 80	22 0	27 40	33 0
August ,,	33 50	35 0	38 33	26 0	32 38	37 0
September ,,	29 92	32 0	34 28	23 0	29 0	35 0
October ,,	25 60	28 71	29 80	20 0	26 0	30 0
November ,,	29 98	32 50	35 12	25 0	30 0	35 0
December ,,	34 33	37 40	41 0	26 0	32 50	39 0
January 1878	40 75	42 75	46 66	31 0	37 0	43 0
February ,,	42 12	45 0	48 0	32 0	38 0	47 0
March ,,	32 35	37 60	39 43	26 0	30 0	35 0
April ,,	29 0	32 0	34 0	21 0	28 0	32 0
May ,,	27 50	31 0	33 50	19 0	26 0	32 0
June ,,	30 50	32 66	34 83	25 0	30 0	33 0
Maximum	40 0	46 0	48 0	32 0	38 0	48 0
Minimum	13 0	16 0	18 0	12 0	16 0	20 0
Average for 2 years.	25 60	29 97	32 52	22 20	28 66	32 0

Per cart load, 32 bushels rice : 1 ton manure. * Craigie Lea Bazaar Rs. 2 less

L L.

MEMORANDUM.

		Rs.	Cts.
To Cart hire from Gampola, to Nuwara Eliya, 1878,	per Bushel	1	12
,, ,, ,, Manure	,, Cwt.	2	25
,, Nuwara Eliya to Gampolla on Coffee	,, Bushel	0	25
,, ,, Average rate 1876 & 1877, on Rice	,, ,,	1	0
,, Tavalam hire from Udapusellava Estates, Coffee	,, ,,	0	33
,, ,, Do. do. Rice	,, ,,	0	75
,, ,, Do. do. Manure	,, ,,	0	75
,, ,, Average rate, 1876 & 1877, Coffee	,, ,,	0	37
,, ,, Do. do. Rice	,, ,,	0	75
,, Cart hire from Gampola to Wilson's Bungalow	,, ,,	1	37
,, ,, Do. do. Manure	,, Cwt.	2	75
,, Wilson's Bungalow to Gampola, on Coffee	,, Bushel	0	35
,, ,, Average rate, 1876 & 1877, on Rice	,, ,,	1	25

M M.

LETTER from A. H. THOMAS, Esq., to the PRESIDENT, Railway Commission.

229, Kollupitiya,
Colombo, 31st July, 1878.

SIR,—To complete my answers to the Railway Commission, I beg to be allowed to give my opinion as to the extent of forest land still in reserve in the District of Dimbula.

There is a vast extent of Crown forest along the slopes of the whole range of hills extending from the "Kitlamana" to the "Elbedde."

First comes the forest up the "Nanu-oya Valley" on both sides, reaching beyond the "Black Pool;" from this valley there is a large stretch of fine undulating land between the ridge and the "Edinburgh," "Easdale," "Abbotsford" and "Maha Eliya" estates till it reaches the top of the "Dimbulanda Valley." The reserve forest here extends above "Pennynydd" and "Calsay" estates, reaching up to the "Rajah Patna" and over the hill, still keeping on the Dimbula side of the main range down into the "Railway Gorge."

From this point the Crown forest extends above the "Uvahkelly" and "Morville" estates until it reaches the Agra Uvah Valley where the Dimbula Coffee Company's estates are situated. In this valley there is a larger acreage of reserve than in the others I have described; there are several thousands of acres here without approaching too near "Kirigalpotta." From this point the reserve extends for some distance to the south-west of the "Agra Uvah Valley" between the main range of hills and the "Bopatalawa Patnas" to the ridge which separates Dimbula from Dikoya.

Besides this there is a reserve of forest between the above patnas and the "Holmwood," "Stair," and "Elbedde" Estates to the south-west.

I calculate the Crown reserve I have described to be certainly not less than twelve thousand (12,000) acres, leaving the approach and the steep sides of the main range of hills the whole length out of calculation.

This large acreage would, in my opinion, find ready purchasers for the purpose of cultivating tea, coffee, and cinchona.

I am, &c.,
A. H. THOMAS.

P.S.—I sent this letter to the Council Rooms yesterday, but was too late, the doors were closed before the servant arrived.

August 1st, 1878.

RAILWAY EXTENSION COMMISSION.

APPENDIX.

N N.

TOTAL ACREAGE of Dimbulla.

	Rosita.	Talawakelle.	Wattagoda.	Nanu-oya.	Total.
Extent in each section ...	11,233	25,787	3,543	9,788	50,351
Under cultivation ..	9,587	21,114	2,981	7,829	41,511
Tea, Cinchona, and Grass	340	340	340	340	1,360
Cultivation in Coffee ...	9,247	20,774	2,641	7,489	40,151

O O.

LETTER from MELL, MENDIS & CO., to the Hon. W. H. RAVENSCROFT, Chairman of the Railway Commission.

Colombo, 31st July, 1878.

HON'BLE SIR,—IN reply to your note of the 10th instant we beg to inform you that owing to an unavoidable engagement we are not able to present ourselves before the Commission to give the necessary information personally. Therefore we herewith enclose the only information we can give, and that is touching the first subject; as regards the other subjects we cannot say anything since we know nothing about them.

We have, &c.,
MELL, MENDIS & CO.

MEMORANDUM of Cart Hire.

		1st July, 1876, to 30th June, 1877.		1st July, 1877, to 30th June, 1878.		
		Lowest rate per cart load.*	Highest rate per cart load.	Lowest rate per cart load.	Highest rate per cart load.	Present rate per cart load.
		Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
Nawalapitiya to	Dikoya	17 * 50	30 0	26 0	37 50	27 0
Do.	Norwood	18 50	33 0	27 0	41 0	29 0
Do.	Bogawantalawa	20 0	36 0	29 0	46 0	32 0
Do.	Dimbula	15 0	28 0	24 50	40 0	27 0
Do.	Lindula	18 0	32 0	28 50	46 0	31 0
Do.	Agrapatana	18 0	34 50	30 0	47 0	33 0

(* 1 ton manure or 32 bushels rice is a cart load.)

XI.

FURTHER PAPERS

ON THE SUBJECT OF

FLOOD OUTLETS.

(In continuation of Sessional Paper No. XVII. of 1877.)

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

SCHEDULE.

No.	Date.	From	To	Page.
1	August 10, 1877 ..	The Hon. the Colonial Secretary ..	The Director of Public Works ..	3
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2	September 22, 1877 ..	The Director of Public Works ..	The Hon. the Colonial Secretary ..	*ib.*
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4	September 1, 1877 ...	The Hon. the Government Agent, Western Province ..	The Hon. the Colonial Secretary .	*ib.*
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8	November 30, 1877 .	The Provincial Assistant, P.W.D., Colombo	The Director of Public Works ..	*ib.*
9	December 13, 1877 ...	The Hon. the Government Agent, Western Province ..	The Hon. the Colonial Secretary ..	6
	Enclosure ...	The Assistant Government Agent, Kalutara	The Hon. the Government Agent, W.P...	*ib.*
10	January 21, 1878 .	The Director of Public Works ...	The Hon. the Colonial Secretary ..	*ib.*
	Enclosure	The Provincial Assistant P.W.D., Colombo..	The Director of Public Works .	*ib.*
11	February 2, 1878 ..	The Hon. the Colonial Secretary ..	The Director of Public Works ...	7
12	February 2, 1878 ...	The Hon. the Colonial Secretary ..	The Principal Civil Medical Officer ..	*ib.*
13	February 26, 1878 ...	The Principal Civil Medical Officer ..	The Hon. the Colonial Secretary ..	*ib.*
14	March 9 1878 ..	The Hon. the Colonial Secretary ...	The Principal Civil Medical Officer .	8
15	July 26, 1878 ..	The Director of Public Works ...	The Hon. the Colonial Secretary ...	9
16	August 15, 1878 ...	The Hon. the Colonial Secretary ...	The Director of Public Works ...	*ib.*
17	August 14, 1878 ...	The Director of Public Works ..	The Hon. the Colonial Secretary ..	*ib.*

FURTHER PAPERS

RELATING TO

FLOOD OUTLETS.

No. 1.

The Hon. the COLONIAL SECRETARY to the DIRECTOR OF PUBLIC WORKS.

No. 1,306. Colombo, 10th August, 1877.

SIR,—I AM directed to transmit to you the annexed copy of an extract from the address presented to the Lieutenant-Governor on the occasion of the opening of the Kalutara bridge, and to request you to refer the matter to Mr. Vine, and to furnish me with his report.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

Extract from Kalutara Address.

"There is one vital and important subject which concerns the agricultural interests of the district, and which we beg to press upon Your Excellency's most serious consideration. Year after year inundations, caused by the waters of the Kalu-ganga to a great extent, destroy the crops of large portions of Pasdun and Rayigam Kóralés. This brings with it want and all the attendant evils to the people who are dependent in a very great degree for their food upon the success of their crops. We do not pretend to scientific knowledge, but we annex a rough sketch of the natural outlets on the Kalutara side of the Kalu-ganga, and we would earnestly entreat Your Excellency to direct the making of a careful examination of the district with a view to the finding of a remedy for evils which press so hardly upon the poorest of us."

No. 2.

The DIRECTOR of PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

No. 1,821. Colombo, 22nd September, 1877.

SIR,—IN reply to your communication No. 1,306 of 10th ultimo and annexed extract relating to outlets for flood waters at Kalutara, I have the honor to annex copy of a report on the subject, No. 871 of the 19th instant, from the Provincial Assistant, Colombo.

I have, &c.,
J. F. CHURCHILL,
Acting Director of Public Works.

Copy of Report referred to.

No. 71. Colombo, 19th September, 1877.

SIR,—IN returning the enclosures of your letter No. 686 of 13th ultimo, I beg to state that the flood relief scheme in view extends over an area of 1000 square miles with 30 miles of sea coast.

The rivers draining the districts are the Kalu-ganga, the Panaduré lake outlets, the Kaluwamodara and Bentota gangas, besides several smaller streams.

The approximate discharge of the above outlets when in flood is not more than 100,000 feet cub. per minute. The rainfall at one inch per hour=645,633 feet cub. The

FLOOD OUTLETS.

FURTHER PAPERS.

flood discharge to be received by rivers, tanks, &c., 618,750 feet cub. It will be seen that we require outlets at least six times the area of the existing rivers to place the country beyond the danger of a recurrence of floods—a scheme altogether impracticable besides the attendant danger which would result from such heavy drainage.

Local relief may be given to the lands situated near the sea coast by opening up five water-ways, each of 100 feet in width, the first commencing at the 12th mile and the last at the 30th mile of the Galle road; the cost of these flood passages would be about Rs. 650,000, and the amount of relief they would give compared with the existing rivers would be as 1 to 8.

It will be seen that the latter scheme, large as it appears, would give little or no perceptible relief to a country under flood.

So long as rain continues to fall at the rate of one inch per hour, the risk of floods in low lands must be accepted.

F. VINE,
Provincial Assistant.

No. 3.

The Hon. the COLONIAL SECRETARY to the GOVERNMENT AGENT, Western Province.

No. 809. Colombo, 2nd October, 1877.

No. 1,821 of Sept. 22, 1877.

SIR,—I AM directed to transmit to you for your information the annexed copy* of a letter from the Director of Public Works on the question of providing flood outlets between Colombo and Kalutara.

I am, &c.
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 4.

The Hon. the GOVERNMENT AGENT, Western Province, to the Hon. the COLONIAL SECRETARY.

Government Agent's Office,
No. 1,097. Colombo, 1st September, 1877.

SIR,—I HAVE the honor to state, for the information of Government, that a few weeks ago Mr. David Wilson called upon me at the Kachcheri, and asked me to consider with him certain proposed works in the town of Colombo.

These works I have coloured, 1 red, 2 blue, and 3 yellow in the accompanying plan.

After shortly discussing the matter, it was arranged that we should visit the works together, and a few mornings afterwards we did so.

The first proposal is to obtain a proper outlet for the flood waters of the Kelani-ganga, which at present inundate periodically a large portion of the north town and suburbs. It is stated that often when the river is fourteen feet high at the point A. on plan just below the bridge-of-boats, it is only three feet high at the point B., and it is thought that if a large canal (coloured red on plan) were cut, the river would never rise to such a height at A., but would discharge itself rapidly both through the canal and by its usual outlet.

I walked over the ground with Mr. Wilson, and I am bound to confess that the proposal seemed to me much more feasible than I had anticipated when looking at the plans. That the work is practicable there can be no doubt, and it is merely a question of what will it cost.

The cutting towards B. will be somewhat deep, but there is no great length of cutting, and it is through cabook and will almost pay itself. The clearing and embanking of the marshy land will not be very expensive; the land is not very valuable, and but few houses will be destroyed. One expensive bridge will be required.

I have spoken to the Provincial Assistant, Mr. Vine, who has promised to have a few rough sections taken, and he, I think, is generally in favour of the scheme.

I venture to suggest that, when these sections have been made, the Director of Public Works should be asked to report on the probable cost of carrying out the scheme, and to state his opinion of it as an engineering work.

If this work can be executed for anything at all reasonable, there can be little doubt that it will confer an immense public benefit.

In connection with this Mr. Wilson proposes that boats should be enabled to enter this canal from the river somewhere near B., and that a new canal should be cut as shewn

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* *Vide* No. 2.

in plan (coloured blue); one branch of this canal will enter the harbour at the point C., and the other branch will join the old canal from Kalutara at the point D. The total length of canal will be about five miles.

Mr. Wilson contends that this work will pay directly as well as indirectly. He shews that it will be absolutely necessary to take up a considerable quantity of land (coloured yellow) on either side of the proposed canal, in order to deposit the earth from the cutting, and this land, which is now comparatively worthless, will when filled in and reclaimed become most valuable. It can then be sold or leased, and its increased value will, it is supposed, re-pay a large share of the cost of the work.

This scheme requires to be examined professionally by the Public Works Department, and, when the best line for the canal is laid out, the land on either side must be roughly valued in order to obtain a fair estimate of the cost.

There is no doubt that, at present, much loss is occasioned, because boats coming from Puttalam and along the Northern canal to Mutwal cannot proceed to the centre of the town or to the wharf; cargo has to be discharged and conveyed at heavy cost by cart for five or six miles, and if the scheme proposed by Mr. Wilson is pronounced feasible and can be executed at no outrageous cost, it is in my opinion well deserving of further consideration by Government.

I am, &c.,
F. R. SAUNDERS,
Acting Government Agent.

From Government Agent, Colombo; date, 1st September, 1877.—No. 1,077.
Forwarded to the Director of Public Works for report.

By Order,
J. A. SWETTENHAM,
for Colonial Secretary.

Colonial Secretary's Office,
Colombo, 7th September, 1877.

Public Works Department,
Colombo, 23rd November, 1877.

No. 185.

I HAVE the honor to refer you to my letter No. 2,182 of the 19th instant.
Plan referred to in this enclosure was returned with letter No. 2,182.

I have, &c.,
J. F. CHURCHILL,
Acting Director of Public Works.

No. 5.

The DIRECTOR OF PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

No. 1,902. Colombo, 2nd October, 1877.

SIR,—REFERRING to your endorsement No. 124, I have the honor to submit for sanction, headed against the Supplementary Supply Bill, an estimate amounting to 250 rupees for making an examination over the line of proposed flood outlets at Mutwal.

I have, &c.,
J. F. CHURCHILL,
Acting Director of Public Works.

No. 6.

The Hon. the COLONIAL SECRETARY to the DIRECTOR OF PUBLIC WORKS.

Colonial Secretary's Office,
No. 1,706. Colombo, 13th October, 1877.

SIR,—WITH reference to your letters noted in the margin, I am directed to transmit to you the accompanying notifications of sanction of the estimates therewith submitted.

I am, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 1902, October 2nd, 1877.
No. 1918, October 4th, 1877.
No. 1927, October 5th, 1877.
No. 1935, October 8th, 1877.

No. 7.

The DIRECTOR OF PUBLIC WORKS to the Hon. the COLONIAL SECRETARY; No. 2,182 of 19th November, 1877.

Enclosure from Provincial Assistant, Colombo, No. 1,019 of 29th October, 1877.

[*See* Sessional Paper XVII. of 1877, page 3.]

No. 8.

The PROVINCIAL ASSISTANT, Public Works Department, Colombo, to the DIRECTOR OF PUBLIC WORKS; No. 1,120 of 30th November, 1877.

[*See* Sessional Paper XVII. of 1877, page 5.]

FLOOD OUTLETS.

FURTHER PAPERS.

No. 9.

The Hon. the GOVERNMENT AGENT, Western Province, to the Hon. the COLONIAL SECRETARY.

No. 1,562.

Government Agent's Office,
Colombo, 13th December, 1877.

SIR,—I HAVE the honor to forward for the information of Government copy of a letter No. 940 of the 5th instant, received from my Assistant at Kalutara, and to inform you that I strongly recommend a further consideration of this scheme, as I am convinced that a few additional flood outlets on the coast between Panadure and Kalutara would give considerable local relief during flood time. I am supported in this view by the opinions of Messrs. Strong and Hime, whom I consulted on the subject when last at Panadure.

I am, &c.,
F. R. SAUNDERS,
Acting Government Agent.

Enclosure from the ASSISTANT GOVERNMENT AGENT, Kalutara.

No. 940.

Kalutara Kachcheri,
5th December, 1877.

SIR,—WITH reference to Mr. Vine's report upon the question of flood outlets for this district, a copy of which was forwarded to me with your letter No. 817 of October, I have the honor to request that you will move the Government to obtain from the Provincial Assistant another report and estimate with reference to the amount of relief which might be obtained by the clearing of the existing channels in the district, and the probable cost of such a work. I am moved to this request by the information given to me by the Superintending Officer at this station of the immense amount of local relief afforded by the clearing of the Hinetiyangala-ela lately undertaken by Government. This work is rapidly progressing and has already been attended with the most beneficial results; the estimate which has been submitted and sanctioned does not however take the improvement beyond the limit of the town, and I would now very earnestly request that, as a first step, this useful work may be continued to the end of the channel in question. The expenditure necessary for this undertaking might, I presume, come under the general vote for next year, whilst that for the entire scheme might be included in the Supply Bill for 1879, if the estimates, which it would take some months to prepare, prove to be satisfactory to the Government.

I have, &c.,
H. HAY CAMERON,
Assistant Government Agent.

No. 10.

The DIRECTOR OF PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

Floods about Colombo.

No. 152.

Colombo, 21st January, 1878.

SIR,—WITH reference to my letter No. 2,182 of the 19th of September last, and other correspondence, upon the question of floods about Colombo, I have the honor to annex a copy of Mr. Vine's letter, No. 32 of the 15th instant, and beg to suggest that, if I were authorized to employ a tracing officer (Mr. Cummins), and incur an expenditure of about 5,000 rupees for the cost of labour required for the surveys and sections necessary, I could by the end of the year submit a report with plans and estimates for such works as would be required to prevent future floods.

I have, &c.,
J. F. CHURCHILL,
Acting Director of Public Works.

Enclosure from the Provincial Assistant, Colombo.

Subject.—Flood Outlets.

No. 32.

Colombo, 15th January, 1878.

SIR,—I HAVE the honor to state that I have given Sir J. Coode such information as we possessed in connection with the proposed flood outlets at Colombo and Kalutara.

The plans and reports both for Colombo and Kalutara were laid before him, and the Kelani-ganga inspected from the railway bridge to Mutwal point, the proposed point for apping the river, the bar, outlet, &c.

On the Kalutara side an examination of the ground near the proposed outlet on the 19th mile was made; this point is considered the most favourable for giving relief to flood waters in the Pánadurá lake and the surrounding ground.

I should mention that Sir J. Coode gave no opinion as to the value of other work or any suggestion for a better scheme.

In the event of the plans being forwarded to England, the following information will be required to enable the Consulting Engineers to decide upon the value of the scheme:—

Sections of the bed of Kelani from Bar to Hanwella.

Contours of the country laid under water during heavy and ordinary floods.

Survey of the flooded districts, shewing nature of land flooded, cultivation, &c.

Cross-sections of the Kelani at different points.

Details connected with the proposed flood channel.

Statement shewing the damage done by floods.

Statement shewing probable improvements or increased value of land after opening outlets.

Statement of rainfall.

Estimate of proposed works.

The same general information would be required for the Kalutara District.

Whilst the proposal for the Kelani flood relief is under consideration, I would suggest that a complete scheme should be prepared that would effectually bar out all floods from Colombo between a line drawn from the head of the Kithmané canal and the railway bridge at Kelani; provision for independent drainage would be made, and, providing there are no physical difficulties, the swamps around Colombo would be thoroughly drained and kept free from floods of the surrounding country.

The larger scheme of tapping the Kelani should be carried out independently of the inner work, as a means of giving relief to the country and lessening the duration of floods, whilst the inner proposal is a local work for protecting Colombo.

These proposals would take time to work out, and a special officer would be needed for the field-work.

F. VINE,
Provincial Assistant.

No. 11.

The Hon. the COLONIAL SECRETARY to the DIRECTOR OF PUBLIC WORKS.

No. 191. Colombo, 2nd February, 1878.

SIR,—I AM directed to acknowledge the receipt of your letters noted in the margin.

No. 150 of Jan. 21st, 1878.
No. 152 of Jan. 21st, 1878.

I am to authorize you to incur an expenditure not exceeding 5,000 rupees in making the surveys and sections referred to in your letter No. 152, and preparing the information suggested as necessary for forming an opinion on the question of flood outlets.

I am further to authorize the employment of Mr. Cummins as proposed in your letter No. 152, and to request you to recommend another officer to be sent (if necessary) to the assistance of Mr. Gunn.

I am, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 12.

The Hon. the COLONIAL SECRETARY to the PRINCIPAL CIVIL MEDICAL OFFICER.

No. 89. Colombo, 2nd February, 1878.

SIR,—IN connection with the question of flood outlets I am directed to inquire whether your attention has been drawn to the effects upon the health of the people residing near the flooded districts of the periodical overflowings of the Kelani river, and to request you, if you are aware whether or not the public health has suffered, to make a report upon the subject for transmission to the Secretary of State.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 13.

The PRINCIPAL CIVIL MEDICAL OFFICER to the Hon. the COLONIAL SECRETARY.

No. 165. Principal Civil Medical Officer's Office,
Colombo, 26th February, 1878.

SIR,—I HAVE the honor to acknowledge the receipt of your letter No. 89 of the 2nd instant, with reference to the subject of flood outlets, in which you enquire "whether my attention has been drawn to the effects upon the health of the people residing near the

FLOOD OUTLETS.

Previous Papers.

flooded districts of the periodical overflowings of the Kelani river," and if the public health has suffered or not.

In reply I beg to report as follows :—

The periodical inundations from excessive rainfall, to which the river Kelani is liable, give rise to the submersion of extensive tracts of land in the neighbourhood of Colombo, and the effects have been most disastrous to the numerous and populous villages situated in the area drained by this important river.

The evils caused by these annual, or indeed often bi-annual, floods may be divided for convenience of description into primary or immediate, and secondary or after, effects. Under the first heading may be enumerated the injury done to property and crops, entailing considerable loss on a poor and industrious people : houses are frequently submerged, and in many instances swept away ; cattle, goats, pigs, and poultry have also been destroyed, and the crops suffer to a serious extent ; the seed sown is often washed out of the ground, premature and abortive fructification ensues, ending eventually in rot and the total destruction of the grain.

Besides these may be mentioned the difficulty of travelling owing to the submersion of the roads, the consequent increase in the price of food, the destitution of the people from want of employment, rendering them easy victims to those diseases which invariably originate subsequently on the subsidence of the floods, due, no doubt, to the putrifying processes in progress and the rise of morbific emanations from the drying earth. When the waters commence to subside the process of decomposition of the organic matter carried along by the floods and deposited over the country or caused by the destruction of growing vegetation sets in, the soil, saturated with rain water and improperly drained, forms a ready *modus* for the decomposition of animal and vegetable substances, and the giving off of mephitic vapours, particularly malaria. The damp soil gives rise to such diseases as catarrh, rheumatism, diarrhœa, dysentery, and intermittent fever, which frequently become epidemic, attacking a large per-centage of the people. This fever is often of protracted duration, leading to organic disease or to anæmia or malarial cachexia. Different forms of bowel disease become endemic, and are frequently very fatal. They seem to originate from the dampness of the soil, malaria, insufficient clothing and poor diet, to which may be added the contamination of the water supply, owing to the infiltration of the wells with decaying organic matter from the soil, and the use of unwholesome food from the destruction of the paddy and other crops.

It not unfrequently happens that in some districts intermittent fever becomes endemic, due to the mephitic exhalations arising from the swamps left by the floods ; and these swamps, I may state, in many places have become permanent, each successive flood enlarging their dimensions.

In this connection it may be well to draw attention to the enormous expenditure of "fever medicines," such as quinine, quinetum, and cinchona, which have been annually distributed by the Government to the unfortunate sufferers from the inundations of the Kelani.

From the above remarks, I consider it will be evident that the effects of the inundations of the Kelani river are most injurious to the health of the people residing on its banks or in the vicinity of the flooded districts.

Two other rivers—the Kalu-ganga and the Maha-oya—are also subject to inundations, producing effects similar to those caused by the overflowing of the Kelani.

I would only offer, in conclusion, the suggestion, that in addition to affording a sufficient number of flood outlets, the river Kelani should be efficiently banked, which is I submit, essential to the health and prosperity of the people of the Western Province living in or near the flooded districts ; and these, I may add, are also the fever districts of the Province.

I am, &c.,

W. R. KYNSEY,
Principal Civil Medical Officer and
Inspector-General of Hospitals.

No. 14.

The Hon. the Colonial Secretary to the Principal Civil Medical Officer.

No. 199. Colombo, 9th March, 1878.

Sir,—I am directed by the Governor to acknowledge, with thanks, the receipt of your letter of the 26th ultimo, No. 165.

I am, &c.,

J. A. SWETTENHAM,
for Colonial Secretary.

FLOOD OUTLETS. Further Papers.

No. 15.

The Director of Public Works to the Hon. the Colonial Secretary.

No. 1,433. Colombo, 26th July, 1878.

Sir,—Referring to your letter No. 191 of 2nd February last, I have the honor to submit for sanction an estimate amounting to 5,000 rupees for surveys in connection with the proposed flood outlets, Colombo, and to state that the estimate is headed against the Supplementary Supply Bill, in which provision will be required.

I have, &c.,

A. MURRAY,
for Director of Public Works.

No. 16.

The Hon. the Colonial Secretary to the Director of Public Works.

Colonial Secretary's Office,
No. 1,342. Colombo, 15th August, 1878.

Sir,—With reference to your letter No. 1,433 of the 26th ultimo, I am directed to transmit to you the accompanying notification of sanction of the estimate therewith submitted.

I am, &c.,

J. A. SWETTENHAM,
for Colonial Secretary.

No. 17.

The Director of Public Works to the Hon. the Colonial Secretary.

"*Flood Outlets, Western Province.*"

No. 1,567. Colombo, 14th August, 1878.

Sir,—With reference to your letter No. 191 of the 2nd of February last, authorizing me to undertake surveys and prepare information necessary for forming an opinion upon the question of making additional outlets for the floods in and about Colombo, I have the honor to annex a general plan of the country from the Maha-oya beyond Negombo to the Kalu-ganga at Kalutara, upon which the proposed flood outlets are marked in red, and also to give a general estimate of the probable (the detailed plans and sections not yet being completed) cost of carrying out these works.

2. There is water communication between the Maha-oya and the Kelani and Kalu-ganga rivers, and in floods these three rivers overflow their banks and these waters unite, forming one vast flood inundating all the low lands.

3. The distance from the Maha-oya to the Kalu-ganga is fifty-two miles, and the Kelani-ganga is about midway between these rivers.

4. The following is the list of outlets I would propose should be made for the escape of the flood waters, with the probable cost of their construction. They are placed in the order of benefit to be derived from them, and in which, if determined upon, they should be carried out.

Corresponding number on Plan.		Estimate of probable cost.
		Rs.
1.	Channel from Kelani-ganga at Ambatalé to Killapana canal and from the Cinnamon Gardens in Turret road	1,430,000
2.	Channels at Mabola through Mutu Rajawela to the sea	316,000
3.	Improvements to the banks of the Kelani-ganga from Péliyagoda to Kaduwela and improvement to bends in river and clearing bed of obstructions	295,000
4.	Channel from Bolgoda lake to the sea at Talapitiya	190,000
5.	Channel from the Panadure lake to the sea at Moratuwa ...	60,000
6.	Channel from the Kaymal canal to the North of Negombo and channel at Kupankadai from the Negombo lake to the sea	50,000
7.	Channel and river embankment at Kalutara	40,000
8.	An iron bridge over the Kelani-ganga at Grandpass in lieu of the present bridge-of-boats	450,000
9.	Channel from the bridge-of-boats to the sea near the mouth of the Kelani-ganga, and canals about Colombo	732,000
	Rs.	3,473,000

FLOOD OUTLETS.

Sessional Papers.

5. As regards the first proposed outlet.—After the great flood of 1872 a Commission was appointed to enquire into the cause of that flood, and in their report dated 17th February, 1873, they treat fully on the question of the Kelani-ganga, and give calculations to shew that it would require the river to have five times its present capacity to carry off the amount of rain that fell upon its water-shed; and they also shew that the river at Kadawella has a larger capacity than at the Kelani railway bridge, which is eleven miles lower down its course. This proves that any additional water-way given to the river should be from above the railway bridge at Kelani. It is therefore proposed that this outlet or channel be cut from the river at Ambatalé through the low lands to the Killapana canal to the sea; the length of this channel will be about eight miles. The flood at Ambatalé rises to a height of twenty-two feet above the ordinary low water level of the river. This channel to be made 200 feet wide at the river, gradually increasing to a width of 300 feet as it nears the sea. This channel will intercept the flood from the Kalugangé from passing into the Kelani, and it often happens that the Kalu-ganga may be flooded when there is no flood in the Kelani.

6. The opening out of this channel was recommended by the Flood Commission, and this was done to a small extent, but not sufficiently so to be of much advantage. When opened up to the full extent now proposed, it will give great relief.

7. The branch channel to Kanatta will drain that portion of the Cinnamon Gardens and the General Cemetery, which is very little above flood level.

8. The small channel for Turret road will drain that portion of the town of Colombo.

9. The second outlet from Mabola to the sea. This channel and outlet into the sea will afford great relief in allowing a free discharge to the large accumulation of flood water in this district, and it is proposed in connection with this work to put 100 feet of additional waterway into the railway embankment. It is proposed to make the main line of this channel 210 feet wide, and its branches 100 feet wide.

10. The third proposal is for the improvement and restoration of the river embankments from Pelyagoda to Kaduwela, and also for widening the river where contracted, and clearing out rocks that prevent the free flow of water. These works will add much to the capacity of the river and prevent its overflowing its banks and flooding the surrounding low lands.

11. The fourth proposal of a channel 100 feet wide from the Bolgoda lake to the sea at Talapitiya.—It will be seen on reference to the map that there is no escape for floods between Kalutara and Panadure, so that the great advantage of this outlet is apparent, as the floods of the Kalu-ganga spread over this part of the country.

12. The fifth proposal of a channel 50 feet wide from the Panadure lake at Moratuwa will in high floods give considerable relief.

13. The sixth proposal of a channel 60 feet wide from the Kaymal canal to the sea (to the North of Negombo) and the channel 60 feet wide from the Negombo lake to the sea opposite to where the Dandeganna river empties itself into the Negombo lake.—Both of these works will tend to reduce the floods in and about Negombo.

14. The 7th proposal for an embankment along part of the Kalu-ganga and a channel to the mouth of that river will shut out the river floods from the large tract of low land near Kalutara, and allow its inland drainage an outlet into the sea.

15. The 8th proposal for an iron bridge over the Kelani at Grandpass in lieu of the present bridge-of-boats.—The present bridge-of-boats is a great obstruction to the free flow of water in the river, and it is very desirable that it should be replaced with an iron bridge with long spans supported upon iron cylinders. In floods the heavy traffic across this bridge is stopped, and so also is the boat traffic on the river, so that the proposed iron bridge would not only do good by allowing a freer escape for flood waters, but also be a great advantage to the large traffic passing over and along the river.

16. The 9th proposal of a channel from the bridge-of-boats to the sea at Mutwall is a work that has long been advocated, but a glance at the general map of the country will at once shew that in itself this work would be of little advantage generally, and it is to be expected that if the works before recommended have been carried out the floods in the river will be so reduced that there will not be any necessity for this work; at any rate, it is not desirable that this work should be undertaken until the effect produced by the other works is seen. Combined in this proposal are additional canals for Colombo, which would also act as drains for the Madampitiya fields. The cost of the canal works would be about Rs. 200,000.

17. It must not be expected that these outlets, giving one thousand lineal feet of additional water-way into the sea will prevent all floods in a country like this when the rainfall is sometimes (twelve inches a day) so heavy, but they would prevent the floods raising to the great height they do now, destroying both houses and crops on the high lands.

18. The low lands would in heavy rains still be flooded, but the rice crops are not injured if submerged for only a few days; it is the long submergence from six to fourteen days, as at present, that destroys these crops. These additional flood outlets would allow of the rapid escape of the floods that are now pent up on the low lands for long periods.

I have, &c.,

J. F. CHURCHILL,

Acting Director of Public Works.

XII.

REPORT OF THE COMMISSION

APPOINTED TO INQUIRE INTO THE

CAUSES OF THE BURSTING

OF THE

BUND OF THE KURUNEGALA TANK.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

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LETTER OF APPOINTMENT.

KURUNEGALA TANK COMMISSION.

LETTER OF APPOINTMENT.

Colonial Secretary's Office,
Colombo, 22nd November, 1877.

GENTLEMEN,—I am directed to inform you that the Governor has been pleased to appoint you a Commission to enquire into and report on the causes of the bursting of the Bund of the Kurunégala Tank, and the claims to compensation in respect of the damage caused by the accident.

Your expenses for proceeding to Kurunégala will be paid.

The necessary Commission is enclosed.

I am, &c.,

GEO. T. M. O'BRIEN,
for Colonial Secretary.

The Hon. Lieut.-Colonel A. B. FYERS, R.E.,
ALLANSON BAILEY, Esq.

COMMISSION.

Victoria, by the Grace of God of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith.

J. R. LONGDEN,

Governor.

To the Honourable *Amelius Beauclerk Fyers*, Lieutenant-Colonel R.E., and *Allanson Bailey*, Esquire, greeting:

Whereas We deem it expedient to cause inquiry to be made into the causes of the bursting of the bund of the tank at Kurunégala, in the North-Western Province, and into certain claims to compensation in respect of alleged damage caused by the accident; and Whereas it has been shewn to Us that it is necessary to obtain evidence by a Commission of Enquiry to be appointed by Us under the provisions of the Ordinance No. 9 of 1872, entitled "An Ordinance to empower Commissioners appointed by the Governor to inquire into any matter referred to them for enquiry to hear evidence thereon."

Now know ye, therefore, that We, in confidence of your prudence, ability, and fidelity, have appointed you, and by these presents do appoint you, the Honourable *Amelius Beauclerk Fyers*, Lieutenant-Colonel R.E., and *Allanson Bailey*, Esquire, to carry on the inquiry aforesaid, and to exercise for that purpose the powers given to **Commissioners** by the said Ordinance in conformity with the provisions thereof.

Given at Colombo, under the Public Seal of the Island, this Twenty-second day of November, One thousand Eight hundred and Seventy-seven.

By His Excellency's Command,

ARTHUR N. BIRCH,
Colonial Secretary.

KURUNEGALA TANK COMMISSION.

REPORT.

KURUNEGALA TANK COMMISSION.

REPORT.

THE Kurunégala tank is supposed to have been made in the reign of Buwaneka Bahu II., about A.D. 1319; subsequently its embankment became breached, and it was only repaired about twenty years ago

Tank made A.D. 1319.

2. The tank is formed by a bund about ·77 of a mile in length, uniting high ground at each extremity, the south end being connected with a ledge of rocks, a portion of which constitutes a natural spillwater.

Bund ·77 mile long.

3. The average width of the top of the bund is 20 feet, and its height 12 feet, with slopes of about 45°, or 1 to 1.

Width of bund.

3½. There are two sluices in the bund: the principal one, which is of iron and 9 inches in diameter, is 6·55 feet below spill level; the other is of brickwork, 8 inches by 7 inches and its sill is only 3·80 feet below spill level.

Two sluices.

4. The tank when full is about 104 acres in extent; it is fed by the drainage from an area of about 167 acres, but no regular stream flows into it.

Area of tank.

5. The water in the tank is used for the irrigation of about 70 acres of paddy land: it is also extensively used for bathing and drinking purposes.

Purposes for which water in tank is used.

6. The surface of the tank had for some years been covered with a large mass of floating vegetation, which extended to a depth of about 6 feet and had become converted into a compact mass of entangled roots.

Vegetation on surface.

7. Various schemes were at different times proposed for getting rid of this mass of vegetation, and an estimate amounting to 3,000 rupees was provided for the purpose in the Supply Bill for the current year.

Different schemes for clearing tank.

8. Some correspondence (vide appendix No. II.) took place between the Provincial Assistant and the Government Agent on the subject, and the former was directed on 16th August, 1877, by the Director of Public Works, to proceed at once to carry out the work.

Provincial Assistant ordered to commence work, 16th August, 1877.

9. An attempt was made to cut and remove the floating mass by manual labour, and subsequently a winch was erected so that the portions cut could be hoisted up and thrown over the spillwater.

Unsuccessful attempts made.

10. On the 14th September the Provincial Assistant wrote to inform the Director of Public Works that, at the suggestion of his Superintending Officer, Mr. Case, and in order to remove the detached portions as cheaply as possible, they had made a kind of lock, into which the detached masses were floated.

Formation of lock in bund.

11. This suggestion was approved by the Director of Public Works (vide his letter No. 595 of 25th September in appendix.)

Approved by the Director of Public Works.

12. The method tried as an experiment was as follows:—A cutting was made through the bund, the bottom of which was 10 feet wide and was 3·5 feet below the level of the water in the tank. The sides of the cutting were supported by piles and planks, and the bottom planked. A door was formed consisting of planks placed vertically with their lower ends resting in a rebate in a sill piece, and their upper extremities supported by a cross-beam on the tank end of the cut; a door was also provided for the rear end of the opening. It was proposed to float the pieces of vegetation to be removed close to the entrance to the cutting; the door was then to be removed to enable the water to enter it to a depth of 3 feet 6 inches.

Description of method adopted.

13. The portions to be removed would then be floated into the cutting, the planks on the front end replaced, and those on the other end removed, when the water and vegetation in the cutting would be carried into the stream at the outside of the bund.

Portions of vegetation to be floated out.

14. While this experimental cutting was being made, the Government Agent had the principal sluice opened, and wrote to call the urgent attention of the Provincial Assistant to the work that was being carried out (vide appendix II.)

Government Agent opened sluice while work was going on and wrote to Provincial Assistant.

15. In reply, he was informed by the Provincial Assistant that the operations necessary for clearing the tank were decided on after careful and deliberate consideration between the Superintending Officer and himself—that every precaution was being taken. He begged the Government Agent not to open the sluice-gates, as such a measure would greatly retard their operations. He requested to be allowed to proceed with the work, pending reference to the Director of Public Works, and stated that he was prepared to hold himself personally responsible, that by no possibility could any damage be done to the dam by his arrangement.

Provincial Assistant's reply.

Government Agent closed sluice and forwarded key to Provincial Assistant.

16. The Government Agent then stated that he was unaware that the work had received the sanction of the Provincial Assistant. Such being the case, it would not be proper for him to offer any objections, or give further expression to his unprofessional opinion. He also stated that he had caused the sluice to be closed and forwarded the key to the Provincial Assistant.

Superintending Officer reported experiment successful.

17. On 2nd October Mr. Case, the Superintending Officer, wrote to inform the Provincial Assistant that on the previous day he had floated out blocks of vegetation, most of which were 9 feet square by 3 or 4 feet in thickness, but one of them was 6 feet thick. The boards in the front and at the back of the bund were closed just before nightfall, watchers were placed, and orders given to strengthen certain portions the next day.

Leak through cutting same night stopped.

18. About 10 at night Mr. Case was called by the overseer, who reported that water was escaping; he then hastened to the spot, and measures were taken to stop the leak.

Strong coffer dam commenced; permanent works proposed.

19. He went on to state in the same letter that the floating out of the vegetation, with which the tank was almost completely covered, was beyond all expectation a success; but he was of opinion that the channel should be more substantially built, and a masonry wall carried down to the solid in front to prevent any risk of scour. He was then at work constructing a thoroughly good coffer dam, and proposed to build in masonry a foundation to form one of the bathing ghauts for which there was an estimate.

Description of permanent works. Provincial Assistant could not recommend them until he had consulted with Mr. Case.

20. The masonry was to be carried up to within 3 feet 6 inches of the water level, 5 feet on each side of the centre of the ghaut. The sides being completed in every respect, the planks could be fitted to the masonry of the wall shewn on bathing ghaut plan to be built on the face of the bund, &c. The Provincial Assistant forwarded this letter to the Director of Public Works, and stated in his covering letter, written at Chilaw, that he was unable to recommend the proposal to combine the building of the bathing ghaut with the construction of a permanent means of floating out the vegetation from the lake without consulting with Mr. Case on the spot; he further stated that he would return to Kurunégala as quickly as possible and report further on the subject.

Director of Public Works recommended great care to be taken in making a cutting in the bund.

21. The Director of Public Works, on receipt of this letter, wrote to the Provincial Assistant on 9th October as follows:—"Great care must be exercised in making any cutting into the bund of the Kurunegala tank, for if the bund burst the consequence would be most serious. You must satisfy yourself that all is safe and secure before allowing this system of clearing the tank of weeds to be commenced."

Provincial Assistant reported that vegetation could not be burned, and recommended floating out in blocks.

23. On the same day (9th October), the Provincial Assistant having returned to Kurunégala, wrote to the Director of Public Works and forwarded a letter from the Superintendent on the subject. The Provincial Assistant stated that it was quite impossible to burn off the vegetation at the bottom of the tank, even if all the water could be run out of the tank, and that the cheapest way of getting rid of the floating masses would be by means of sluices, through which the substance could be floated out in blocks.

Proposed to combine bathing ghauts with passage through bund.

24. He further stated that experience had shewn that the passages through which it was to be floated must be very strong to render the operation safe, and he submitted that the wings of the proposed bathing ghauts would render the work perfectly secure, if passages were formed through the ghauts leaving openings 10 feet wide in the masonry, which could be filled up to complete the ghauts as soon as the lake should have been cleared. The sites selected for two of the ghauts would answer perfectly well for the required openings, &c.

Plan and estimate submitted October 22nd.

25. On October 22nd the Provincial Assistant submitted a plan and estimate for the construction of a sluice through the bund. By the mode proposed no special estimate would be required, as the amount in addition to the ghaut estimate could be met out of the estimate for clearing the lake.

Works commenced, 3rd October.

26. The works agreed upon between the Provincial Assistant and the Superintending Officer were commenced on October 3rd.

Description of works agreed upon.

27. It was proposed to form a coffer dam in front of the portion of the bund through which the cutting was to be made, and to combine ghaut and opening. The foundations of the retaining walls of the cutting through the bund were to be taken down to the solid ground on which the bund rests, or to a depth of about 8 feet below spill level, or 7 feet below the level of the water in the tank at the time the work was going on.

Width of cutting to be 10 feet, &c.

28. The width of the cutting was 10 feet, and solid retaining walls were to be built up from the solid ground; the floor of the cutting was also to be paved. The ghaut steps on each side of the entrance to the opening were to be completed, and doors were to be placed against the masonry at the entrance to the opening.

Description of coffer dam.

29. The coffer dam consisted of two rows of piles, 6 inches by 3 inches, driven down as far as they would go, abutting against each other. The rows of piles were 3 feet apart, and the inner side had a sheeting of planks nailed to it; they were all cross-braced and the space between them filled in with puddle. Sand bags were also piled against the front row of piles. The top of the coffer dam was not perfectly level, being 1 foot 9 inches above spill level on one side, 2 feet 4 inches on the other, and 1 foot 4 inches in the centre of the portion facing the bund.

Coffer dam completed, 22nd October, &c.

30. The coffer dam was completed on the 22nd October, and the excavations for the foundations of the retaining walls of the cutting and the bathing ghaut were commenced at once.

31. These excavations were carried down as shewn in section (appendix V.) to a depth of 8 feet 6 inches below spill level, or about 7 feet 6 inches below the level of the water in the tank, as the Superintending Officer informed us that he regulated the height of the water by the principal sluice so as to keep it always about one foot below spill level.

Description of excavations.

32. Heavy rain fell at Kurunégala on the 4th of November to the depth of 1·48 inches, and on the 5th November 1·55 inches fell.

Heavy rain on 4th and 5th November.

33. Mr. Case inspected the works about 4 o'clock on the afternoon of the 5th November and found everything secure and no leak in the coffer dam.

4 P.M. of 5th, works in good order.

34. He, however, in consequence of rain coming on between 7 and 8 P.M. sent a written order to the overseer to open the sluice, which Mr. Case states was immediately attended to. About 1 o'clock on the morning of the 6th November Mr. Appellesz, a Proctor of the Supreme Court, whose residence is close to the tank, was studying an important case, when his attention was drawn to the heavy flow of water in the stream at the outside of the bund of the tank. He at once went to the tank and found the sluice open. The assistant overseer, Simon Cassie Chettie, informed him that the sluice had been opened by Mr. Case's orders. The overseer in charge of the works, and who was supposed to sleep on the spot, was not there.

Mr. Appellesz disturbed by flow of water coming on: morning of 6th November.

35. The assistant overseer informed Mr. Appellesz that the coffer dam was "all safe," but as he had his doubts on the subject he proceeded there himself, and found the whole space of the excavation filled with water, which was coming in from the western side of the coffer dam, part of which was almost severed from the edge of the bund on which it had previously rested.

Discovered leak in coffer dam.

36. Mr. Appellesz gave the alarm at once and directed the assistant overseer to inform Mr. Case and the overseer of what had happened. He also went to the bazaar and gave the alarm to the boutique-keepers, who did not appear to anticipate any danger.

He gave the alarm and warned boutique-keepers.

37. Shortly before 4 A.M. the Superintending Officer was informed of the leakage that had taken place, and proceeded to the spill, where every effort was made to check the flow of water, but without avail; and at about 9 A.M. the whole of the coffer dam was carried away, a large breach was formed where the cutting was made in the bund, and within three hours the tank was empty.

Bund burst 9 A.M., 6th November.

38. Masses of vegetation and mould were carried out of the tank with the water, which flowed over gardens and roads.

Masses of vegetation, &c., carried away.

39. The water-way of the bridge, consisting of two arches and a central pier, over the channel from the tank where it crosses the Puttalam road, not being sufficiently large to carry off so great a body of water, both arches blew up.

Two arches of bridge over Puttalam road blew up.

40. Several houses, but fortunately most of them of simple wattle-and-daub walls with thatched roofs, were destroyed; others were damaged; and the black mould and vegetation from the tank spread over gardens and paddy fields, destroying the crops which had been planted for the next Maha harvest to an extent of about fifty acres.

Damage to houses and fields.

41. Measures were at once taken by the Government Agent and also by the Public Works Department to clear away the vegetation, &c., from the vicinity of the bazaar and roads, and fortunately hitherto no ill-effects have resulted from it.

Measures taken.

42. We proceeded to Kurunégala on the 29th ultimo, and on the 30th inspected the tank and the damages done to fields and houses, and subsequently took evidence as to the causes of the accident and the amount of damage done (vide appendix No. 1.)

Commission proceeded to Kurunegala, 29th November.

Opinion.

43. We are of opinion that it was very injudicious to have made the experimental cut in the bund to float out the vegetation in the tank. No cutting should at any time be made in the embankment of any irrigation work without great precautions being taken to prevent the possibility of a breach being formed, and a sudden and uncontrollable rush of water taking place.

Opinion: no cutting should have been made in bund.

44. The smallest leak in a coffer dam, or through any temporary woodwork connected with earthwork where there is water pressure, very soon becomes larger and larger, until a breach is formed.

Danger of leak when there is water pressure.

45. Fortunately in the present instance no damage took place when the experimental cutting was made; but a leak appeared during the night after portions of the vegetation had been floated out, which was got under; and the Superintending Officer reported that a more permanent work would have to be constructed.

No damage fortunately took place during experiment of floating out vegetation.

46. While the excavations were being made for the foundations of the bathing ghaut and the retaining walls of the sides of the cutting, the level of the water in the tank ought to have been lowered to the depth of the principal sluice; the work could then have been proceeded with, with perfect safety.

Level of water ought to have been lowered before excavations were made.

47. The surface of the water was however kept at upwards of 7 feet above the level of the excavations, at a time of the year when heavy rainfall might be expected.

Surface of the water upwards of 7 feet above excavation.

48. Mr. Case, in his evidence, stated that he passed through water when he crossed the spill about 4 o'clock in the morning of the 6th November, although the level of the water was one foot below spill at 4 o'clock on the previous afternoon. As already stated, 1·55 inch of rain fell that night, and his orders to have the sluice opened might not have

Mr. Case found water over spill, 4 A.M., 6th November.

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Works were designed by Mr. Case, who had charge of them under Mr. Young

been carried out at once. However, in any case, in such an important work, where the greatest precautions were necessary, we are of opinion that the water in the tank ought to have been lowered before the excavations were commenced.

49. The works were designed by Mr. Case, the Superintending Officer, who was also entrusted with the duty of carrying them out, under the directions of Mr. Young, the Provincial Assistant, who is responsible for all works undertaken by the Public Works Department in the North-Western Province.

Compensation: assessment made by Messrs. Jayatilaka and Jayawardana.

Government Agent handed in their report, to which he agreed.

Estimates fair.

50. With regard to the question of compensation, we beg to state that the Government Agent, a few days after the breach in the tank occurred, had the damages assessed by Messrs. Jayatilaka and Jayawardana Muhandiram, the former of whom is a Proctor practising in Kurunégala and a landed proprietor; and the latter is a clerk in the Kachcheri and has for the last five years been an assessor under the Police Ordinance.

51. The Government Agent handed in to us a copy of their report, and stated that he agreed in their assessment (appendix VI.)

52. We examined the assessors as to the principles on which they worked, and are of opinion that their estimates are reasonable and fair.

Damages.
(i.) Houses.
(ii.) Fields.
(iii.) Bazaar Goods.

53. The damages may be divided into three classes: (i) Houses destroyed or injured. (ii) Fields and growing crops damaged. (iii) Bazaar goods washed away. In the case of the houses and fields, there was not much difficulty in estimating the damage done.

Assessors had police assessment list with them.

54. The assessors had the police assessment list with them, and were able to ascertain with accuracy what houses were injured, or had entirely disappeared, and what their estimated value was last year. One of the assessors had recently inspected the fields, and knew which fields had been cultivated and what state the crops were in.

Manner of assessing damage to fields.

55. The manner in which the amount of compensation proposed to be paid to the owners of the fields was calculated is described in the evidence of Mr. Jayawardana (see Appendix No. 1).

Value of bazaar articles destroyed. Government Agent thinks no compensation should be given for these.

56. The assessors found it impossible to determine exactly the value of the bazaar articles destroyed. From what they knew of the contents of the boutiques they thought that 1,500 rupees represented approximately the value of the property lost. This estimate is considered fair by the Government Agent, who, however, is of opinion that the boutique keepers above the bridge should receive no compensation, as they were informed some time beforehand of the probability of the bund bursting, and took no steps to move their property.

As the boutique keepers received warning, not deserving much consideration.

57. There is no doubt they received ample warning from the District Judge, the Assistant Government Agent, and others; and under the circumstances we do not consider them deserving of much consideration.

Owners of half property destroyed were warned.

58. Mr. Jayawardana states that the people who were warned were the owners of about half the property lost.

Assessment of total damage done, 6,343 rupees and 75 cents.

59. The total damage done, according to the assessors' estimate, which, as we have before stated, we consider fair, is—

	Rs.	Cts.
To Houses	3,000	0
„ Fields	1,843	75
„ Bazaar goods (including property of those who received warning)	1,500	0
Total ... Rs.	6,343	75

A. B. FYERS, LIEUT.-COLONEL, R.E.,
Surveyor-General.

ALLANSON BAILEY,
Registrar-General.

Colombo, 7th December, 1877.

APPENDIX

I.

NOTES OF EVIDENCE.

30th November, 1877.

PRESENT:

The Hon. Lieut.-Colonel A. B. Fyers, R.E.,
Allanson Bayley, Esq.

I.—J. D. Young, Esq., Provincial Assistant, Public Works Department, North-Western Province.

Mr. Young, Provincial Assistant Public Work, Department, North-Western Province, is present, and being examined states:—I am Provincial Assistant and as such responsible for all works executed by the Department in this Province. I was in Kurunégala on the day the bund of the tank gave way. It took place about 9 o'clock on the morning of the 6th instant. I was called about 5 o'clock in the morning by Mr. Walter Case, brother of the Superintending Officer, who told me there was a serious leak in the coffer dam which had been put up to protect our work in the bund. When I got to the spot I found the Superintending Officer there with a large number of people endeavouring to stop the flow of water through the coffer dam. The water was enlarging the cutting previously made through the bund. For a short time we succeeded in checking the flow by means of bags filled with earth. Chains were stretched across the opening, and ropes and stakes were driven in; but about 9 o'clock the junction of our work with the bund was undermined at both ends, and the whole gave way, after which it was impossible to do anything. The tank was empty in about two hours.

Question: What was the nature of the work which necessitated the cutting of the bund?

Answer: In 1876 the Government Agent applied to the Government for a vote to clear away the dense vegetation which filled the tank. An estimate was sanctioned on the 14th November, 1876, No. 543, which provided for "the clearing "of the Kurunégala lake, as far as the means will "provide, of weeds and rushes which at present "choke the same." Amount of estimate Rs.3,000. In April, 1877, I applied to the Government Agent to know what he wanted done on the estimate. The then Government Agent had desired that the work should be carried out in consultation with him and subject to his approval; but in reply to my letter of April, 1877, said it was then too late to carry out the work, and that the months of July and August would be the next favourable opportunity. There was some further correspondence, and on the 18th July the Government Agent, Mr. Morris, informed me that he was not disposed to incur any responsibility of a personal nature; the estimate having been sanctioned, the matter was altogether out of his hands. On the 16th August the Head of my Department wrote to me to proceed with the estimate. On receipt of these orders I desired the Superintending Officer, Mr. E. Case, to undertake the work and to make the best arrangement he could for carrying out the work. As a matter of course whatever arrangement he made would be submitted to me for approval. He commenced by dragging the weed ashore by means of nets and a winch. Finding the effect of this was so very inappreciable, the plan was abandoned. Mr. Case then suggested the most economical way would be to float the weed through a cutting in the bund. To effect this he proposed to have a cutting 10 feet wide, the sill of the cutting to be 3 ft. 6 in. below the level of the water when the tank was full, the sides of the cutting to be shored by piles, the flooring to be planked, and ends to be closed by vertical planks with their lower ends resting in a rebate in the sill piece, and their upper ends resting on a cross beam—a wedge being driven in the centre to key them and make them water-tight. It was proposed that the lock should act as follows:—The planks at the tank end of the cutting to be removed, and when the cutting was filled with water and floating weeds, the planks were to be replaced and those at the other end removed, when the water and floating masses of vegetation in the cutting would be discharged into the rocky stream at the back of the bund. While this cutting was being prepared, the Government Agent, Mr. Morris, on the 14th September wrote to me telling me that the Superintending Officer had cut through the bund, and that apprehending danger he had caused the sluice to be opened, and he called upon me to have the cutting filled up. I replied that the work was decided on after careful consideration between the Superintending Officer and myself, and begged him to close the sluice and not to interrupt the work till the matter had been referred to the Director of Public Works. I also offered to explain on the spot the mode of proceeding. Mr. Morris replied that he was not aware the work had my sanction, and he sent me the key of the sluice, saying it would not be proper for him to offer any further remarks or give his unprofessional opinion on the subject. On the same day I sent the correspondence to the Director of Public Works with an explanatory letter. The Director replied on the 25th September that he approved of the suggestions made by me relative to the clearing of the lake. In consequence of the death of Mr. Roche at Chilaw I had to proceed to that station, and left Mr. Case in charge. On the 2nd October he wrote to me that his experiment had been successful, but that the channel would have to be strengthened, and he proposed as an estimate had been sanctioned for bathing ghauts, to combine one of these with the cutting. He pro-

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posed to build a strong coffer dam and to build permanent retaining walls on each side of the cutting, their foundations being taken down to the solid ground on which the roads bound rests. I forwarded Mr. Cass's letter to the Director on the 5th October, and stated that I could not recommend the proposed except after consultation with Mr. Cass on the spot. After my return to Kurunegala and after consultation with Mr. Cass I recommended on the 12th that the proposal should be carried out, on condition that the foundations of the retaining walls were taken down to the solid ground, and that great care should be exercised in cutting to bind, and it forced the coffer dam a bank is useless. I sent to Colombo. I then addressed the Director, he told me to consult Mr. Cass, who the money for building the sluice, I then said, I could not consent to make the work strong. A strong coffer dam was accordingly made, and the tank; the foundations of the retaining walls were then sunk within the cutting to a depth of six feet below the level of the water outside the coffer dam. He dam showed no signs of weakness for three weeks.

Question: During the time the foundations were being sunk was the surface of the water in the tank lowered, or was it retained at spill level?

Answer: The sluice was only opened when it rained, in anticipation of water rising above spill; the sluice lower it before spilling. The sluice should want the water for floating out the wood.

Question: Can you account in any way for the coffer dam giving way?

Answer: I cannot account for the dam giving way. The overseer had had a quarrel with the foreman, who had struck work. This delayed the foundations, and it is possible there may have been foul play. There were no signs of weakness the day before. I did not see the work the day before, as I was busy with Chilaw accompanied with the pain, to Chilaw jail. The superintending officer Chilaw, died on the 24th August; his successor was indisposed, and no officer like arrival till his death on the 21st November. I had consequently considerable additions to my work. To complain all that took place. I had to correspond, are respecting the making and cleaning of proposed channel, cutting, and estimate for repairs of channel.

Question: What was the difference, I might between the coffer dam and the water at spill level?

Answer: About 15 inches.

I beg to add, that in my opinion the prevailing opinion with regard to the vegetable mass in the tank is erroneous. There is no chance of turning it as proposed by Mr. Snowers. Even when cut out and thrown on the side of the tank, it gets covered with vegetation. Its thickness is about six feet; if it could be taken out and placed on a dry surface it would in time get dry, but in the tank with seven feet of mud below it, it will never get dry enough to burn.

II.—E. CASS, Esq., Superintending Officer, Kurunegala District.

MR. EDWARD CASS, Superintending Officer, Kurunegala District, examined on oath:—I was called at 4 o'clock, the morning of the 6th instant by one of the overseers, who he was in charge of the tank work, telling me that there was a leakage. I went at once and found the water pouring through the point of junction between the coffer dam and the bund (at the Puttalam end). I had called to an abbess in the dam before. I at once sent off for all overseers and coolies from the roads around. I came away with the intention of calling Mr. Young, and found him going there. From 6 o'clock till 9 we tried to stop the leak. At 9 o'clock the whole of the coffer dam gave way, forming a rapidly-widening breach in the bund. The tank was emptied by about 12 o'clock. I was directed by Mr. Young about the middle of August to take up the work on the estimate amounting to Rs. 3,000 for clearing the Kurunegala tank. When I began work Mr. Young was away. I soon found that a short way from the sluice the floating mass of vegetation had no hold on the bottom. It was about six feet thick. I then tried cutting it into blocks and removing it over the spill by manual labour. This being slow and expensive, I tapped up a winch with chain and block. This was slow too and expensive. I waited till the return of Mr. Young, and I told him of the cost, and pointed out that the difficulty was the removal of the mass. I asked him if we might safely cut the bund in some favourable spot, turn a leak and float the weed out. He approved the suggestion and we proceeded to select a place. We chose the strongest part, where it was favourable for disposing of the material. We then agreed upon the width of cutting—ten feet at bottom. After a sketch had been made and we had gone into the matter, Mr. Young directed me to go on with the work. I suggested to Mr. Young to mention the matter to Mr. Morris, to which Mr. Young replied that he had already addressed Mr. Morris, who had repudiated all responsibility and said the matter was in Mr. Young's hands. The proved design was as follows:—The opening to be 10 feet wide at bottom and 3 feet 6 inches below ordinary water level. The sides and bottom to be planked, and towels in proper frames to be placed in front and at the back of the channel. It was also proposed to round off the angles at the joint on of the cutting and the slope in the bund with piles and planks. We discussed the question of a bath channel, but Mr. Young wished me to experiment first in the way above described. The plan was tried and found a complete success. The evening I tried it, I ordered the overseer in charge to strengthen the portion in front and placed watchmen to watch it, and I shut down both the gates. I then left it, and at 11 o'clock at night I was called by the overseer. I went and found there was leakage, collected coolies, and by about 1 A. M. I had stopped it. I reported the circumstance to Mr. Young, who was in Chilaw, filled in the opening in front, and commenced to build a permanent coffer dam. We had a temporary dam before. This was what was leaking. The permanent coffer dam was constructed of mills sawn planks 6 in. by 3 in. driven in vertically as piles with a pile-driver—driven as close together as we could. There were two rows of these piles 3 feet apart in the clear. It was braced throughout and lined and plank down the inner side; all the mud was removed down to the solid, and the space filled with puddled clay. The piles were driven as far as they would go. The coffer dam was sunk 4 feet from the bund and was nearly level with the top of it; and the actual level was 1·62 above spill. The water was about 1 foot below spill and never was up to spill level. I proved the spill is going to the scene of the accident, and got my feet wet, so the water was running over them, but it had not done so before.

After the cesser dam was completed we commenced the foundations. I had a mark on an old pile near the sluice about a foot below spill, and by means of the sluice I kept the water about that level. The cesser dam was commenced on October 3rd and completed on October 22nd. The foundations were excavated to the solid, *i. e.*, to about 6 feet below the level of the water in the tank. The cesser dam outside was packed with sand bags up to within about 4 feet of the surface of the water. The cesser dam was up in one evening and the next morning it was broken. I cannot account for its having given way. I saw it the night before, and there was no sign of weakness in or behind the bank, but there rather was very unfavourable; there was constant rain.

Question: Before commencing an important work in this kind, why did you not lower the water to the level of your excavation?

Answer: Had I done so such a wet season as we had, I should certainly have proposed to Mr. Young to do so. The matter was discussed and there were several objections to it. The drainage area of the tank being so small, it was doubtful, if we drained it off, whether we should get sufficient water before the dry weather set in to carry on the floating operation, and we should have been depriving the fields below of the water necessary in the dry season. After careful inspection Mr Young and I considered the dam made all secure. The correspondence handed in by Mr. Yonge shows what was proposed with regard to [illegible] the sluicing of the tank.

Question: What precautions did you take for the safety of the works at night?

Answer: I had been both close to where work was going on, and also had the corporal on duty to keep two watchmen at night. There was a shed built for him to stop in during the night, and he was ordered to be there at night until the masonry was in. I have visited the work at night, and found the watchman and overseer on the alert.

III.—J. G. JAYETILEKE, Esq., Proctor.

J. G. JAYETILEKE examined states:—I am a proctor practising here, and am a native of this district. I have a few lands here. I was asked by Mr. Morris to assist in assessing the compensation due to owners of the lands damaged by the bursting of the bund. The paddy fields have received much present damage, which however will be more than compensated for by the improvement in consequence of the manure which has been thrown on them. Some fields were under cultivation and others were being prepared. Some of the fields will lose two crops, *viz.*, the one which have a thick layer of weeds on them; others can be cultivated next season. In all cases the present crop has been destroyed. The principle we went on was to compensate owners for loss of present crop and seed paddy, &c., and in the case of the much damaged fields 50 rupees per amunam were considered by us as fair and reasonable both to Government and the people. In the case of the houses we assessed what we considered, from our knowledge of the value of property and cost of building, and taking into consideration the condition of the houses, would be a fair amount of compensation. We found it difficult to arrive at the value of the hog which the burlesque bursting suffered. We made a guess at the value of their goods. I don't know that they received any warning beyond the constantly increasing stream flowing from the tank. The people tried to save what they could. I don't think they wilfully allowed their things to be carried away. The water rose much higher than it would otherwise have done, because the bridge on the Pattalam road was choked. In the assessment which we gave to the Government Agent we put down what we thought fair. In assessing the house damages we had a great help, because Mr. Jayewardana, my coadjutor, has been several years assessor under the Police Ordinance.

IV.—R. P. JAYAWARDANA, Esq., 3rd Clerk, Kachchéri.

R. P. JAYAWARDANA, Vithanidiram, examined states:—I am 3rd clerk of the Kachchéri. I have been here eleven and a-half years. I have had much experience in the value of property. I have been for five years Government assessor of property under the Police Ordinance. I was asked by Mr Morris to assess the damage done by the bursting of the bund. I was associated with the Jayetilcke, Proctor, who is unconnected with Government. He entirely agreed with me in my assessment. I may mention the whole of the property damaged is within police limits, and has therefore been assessed by me before. The fields were covered with a black mass of vegetation, but having the police assessment with me and knowing the fields and owners I was able to estimate the extent damaged, which we found to be twenty-five amunams or fifty acres. Of this all at three-quarters were thickly covered, so that the present and the next crop will be lost. The rest will only lose present crop. We suggested that the value of the seed paddy should be given at ten rupees per amunam (five bushels to the amunam). I had inspected the fields two or three days before the bund burst, and knew the age of the crops. Some were a month and some a month and a-half, and a few fields had been prepared but not sown. Twenty rupees per amunam should be given for the labour expended; and for loss of crop we recommend compensation, at the rate of fifty rupees per amunam for the fields which lose two crops, and twenty-five rupees for those which lose one crop. We calculate this compensation as follows:—

Yield per amunam 15 fold— 15 amunams.
= 75 bushels.

Deduct { Govt. tythe 7½ bhls.
Sowandiram 1 „ } 8½
66½

Of this, the landowner's share is one-fourth or about 16½ bushels at Rs. 1·50 nearly Rs. 25

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in value. The total value of compensation for fields is as follows :—

			Rs. cts.	Rs. cts.
For seed paddy, 2½ amu. at	10	0 ...	250	0
Labour lost „ at	20	0 ...	500	0
Compensation 18¾ amu. at	50	0 ...	937	50
Do. 6¼ „ at	25	0 ...	156	25
		Rs.	1,843	75

We inspected with the assessment lists in our hands the houses which were damaged. We noted also those that were missing. We divided them into three classes: (i) totally destroyed; (ii) damaged; (iii) slightly damaged. Of the first we found sixty-three, meaning some damaged so much that they were ordered to be pulled down (value 2,150 rupees). Of the second class thirty-one (value of damage 720 rupees). Of the third class eleven (value of damage 120 rupees). The value of all these was assessed according to present value of houses. Total, 105 houses, 3,000 rupees. Almost all the houses were temporary and in bad condition—wattle and daub and thatched. With regard to loss of property, it was very difficult to determine the value. I saw myself when the accident happened, furniture being broken and washed away, and from what we know of the contents of the boutiques we guessed that 1,500 rupees fairly represented the value of the property lost. Of course the parties interested claim four or five times as much. I myself between 7 and 8 a.m., warned the people in the boutiques to move their things, i. e. the people in *Bazaar street*. The other people were not warned. The Bazar street people are the owners of about half the property. The owners did not do much towards saving their property. The outsiders saved what was saved. The total damage, including loss of property, we assessed as 6,843 rupees 75 cents, which we think perfectly fair.

V.—R. W. T. MORRIS, Esq., Government Agent, North-Western Province.

R. W. T. MORRIS, Government Agent, North-Western Province, examined states :—I was absent from Kurunegala when the breach of the tank burst. I was aware of the manner in which the work was being carried on. I did not approve of it at all. I apprehended that the tank would burst, in consequence of the bund having been cut through. I wrote officially and told Mr. Young what I thought of the work, and I had the sluice opened. He requested I would close it again, so I closed it and sent him the key, and washed my hands of the matter. I asked Mr. Parker, irrigation officer, his opinion about the work, and he condemned it. I sent his letter to Mr. Chisholm. This was two or three weeks after I wrote to Mr. Young. This was certainly not the right time of year to do such a work. The proper thing would be to drain off the water at the beginning of the dry season, and burn the vegetation when it got dry. I believe it would get dry enough at the end of the dry season. I had an assessment made of the damage done by two independent and trustworthy people, one uncontracted with Government. I agree in their assessment, and I hand in their report. I think the value of houses and fields is fair; but I don't think the boutique-keepers above the bridge should receive compensation, as they were warned some time beforehand and took no steps to move their property.

VI.—F. C. APPELLEZ, Esq., Proctor, Supreme Court.

F. C. APPELLEZ, examined, states :—I am a Proctor of the Supreme Court practising here. I live close to the tank; about 20 fathoms from the bund near the sluice. About one o'clock on the morning of the 6th instant I went to my office room and was writing a case. It was not raining then, but it had been raining heavily. My attention was attracted by the sound of an unusual quantity of water falling over the rock in the stream near the sluice. This stream runs outside the bund. I thought at first it must be on account of heavy rain. The sound increased; then I opened my office door and went out to see what it was. There was sufficient sunlight for me to see my way. I went up to the sluice and found the plank out and the sluice open. I called out to the Assistant Overseer (Mr. Simon Cassie Chetty) and asked what was the matter. He said Mr. Case had ordered him to open the sluices over night and he had done it. Then I asked, what about the coffer dam, as the sound of water was more than usually came out of the sluice. He told me it was all right and then he turned in to sleep. I was not satisfied, and thought it best to go to the coffer dam. When I got there I saw the water escaping under the coffer dam and flowing through the cutting. The water was trying to sever the west side of the coffer dam from the bund. I called out for the assistant overseer. He came there with a lantern. He was quite taken by surprise. This must have been after two o'clock. I saw with the aid of the lantern that the water was working under the Western side of the dam. I told Cassie Chetty to inform the superintending officer, Mr. Case, and I went to the bar or mud warned the boutique-keepers—one a Chetty especially—and told them there was danger. On my way I roused overseer Albert, who was at home. At five o'clock and at six o'clock I warned all the boutique-keepers that there was danger. They were quite indifferent and did not attempt to remove their goods. It was not until daylight that there was any number of coolies at work. If the people in the bazaar had measured at the time I warned them first, the leak might have been stopped. They did not attempt to do anything; the Chetty I spoke of said that the people who had worked before had not been paid. They had before turned out and helped to stop a previous leak when the temporary coffer dam was up.

VII.—J. H. DE SARAM, Esq., District Judge, Kurunegala.

J. H. DE SARAM, examined, states:—I am the District Judge. About six A. M. on the day the tank burst, I heard from one of my coolies that the band had burst. I went to the spot and found Mr. Young and Mr. Case there with coolies. I got some constables to come up and keep the crowd away. Mr. Roosmaleecoq came up about that time, and I went with him to the town near the Puttalam bridge. Suspecting that there was a chance of the tank bursting, I warned the people in the bazaars between the tank and the bridge at the lower end of the street. I told them about half-past six or a quarter to seven A.M., there was a chance of the band bursting, and I warned them to move their goods. They did not seem to see the necessity. Messrs. Roosmaleecoq and Mantell and I went to the Negombo road and found the water not very high there. On our return we again warned the same boutique keepers and went back to the tank. On both occasions I spoke to the people near the bridge, as I thought the bridge would, being small, stop the flow of the water, and inundate their houses at once. When we got back to the tank I stood by the breach and got the men to work; some time after I went below the tank and was going back to the band when the whole thing gave way. The water was not pouring over the coffer dam. There had been heavy rain in the early part of the night.

VIII.—G. C. ROOSMALEECOQ, Esq., Office Assistant, to the Kurunegala Government Agent.

G. C. ROOSMALEECOQ, examined, states:—I am Assistant Agent, Kurunegala, and was present when the band gave way. Mr. Morris was absent, and I was in charge. I did not however hear of the danger of the band until I went out for my morning walk. It was about half-past six. I could, from my house, hear the rush of water, and I thought there was something wrong; and seeing people going in the direction of the tank, I went there myself. When I got there I saw the water going out through the cutting at a great rate. I waited there some time to see if they could stop the flow, but found they could not get command over the water; and I went to the bazaar to warn the people. There, I met Mr. Mantell near the Negombo road bridge, and he told me he had given notice to the bazaars near the bridge. I don't know that notice was given on the Puttalam road, except to two or three boutiques in proximity to the bridge. In Bazaar-street and Negombo road notice was given. Mr. Mantell asked me to add my warning, and I did so and sent some of the Kachcheri officers to warn them also. They seemed reluctant to move; I don't think I saw any one attempt to save any property at that time. Then I went back to the tank and stood below the cutting to watch the progress of the water. When I first saw it, the water was pouring over the coffer dam and round the side. I should say the coffer dam was considerably lower than the band. I say so from the amount of water which flowed over the coffer dam. As I stood below watching, I saw a jet of water on the other end of the coffer dam flowing from under the dam. This gradually increased until evidently the whole structure was undermined and washed away. I did not see the spill on that morning. After I saw that the breach was inevitable, I went down to the Negombo road bridge (Bazaar street bridge). I saw the water rushing through, and I told the police to warn the people off the bridge, to prevent accidents. I had the parapet walls broken to facilitate the flow of the water.

1st December, 1877.

PRESENT:

The Hon. Lieut.-Colonel A. B. FYERS R.E.,
ALLANSON BAILLIE, Esq.

VIII.—E. EBERT, Overseer, Public Works Department.

E. EBERT, examined, states:—I was overseer in charge of the tank work. I was in charge for one month—from about end of September. I was ordered to get on with the masonry work. I was not told to sleep on the spot. I got a shed built on the bund for our stores and for watchers. I slept many nights on the bund, but had no instructions to remain on the work at night. I left the work at 8 P.M. on the 5th. It was only drizzling then; it rained heavily afterwards. The water was about one foot below spill during the work. The coffer dam was lower in the centre than where it struck the bund. At the centre it was about a foot above the level of the water, which was about a foot below spill. If the water got up to spill level it would have been level with the top of the coffer dam in the centre. When I was there at 8 P.M. everything was right—no leakage whatever. I heard of the accident about 4A. M., when I was called. I went to the spot and found the water coming out, principally at the Puttalam end of the dam. The water was six or eight feet deep that end, about nine feet in the centre, and ten feet at the other end of the dam. The coffer dam at the Puttalam end was what I gave my particular attention to, as the water was deepest there and the ground uneven. Our longest pile was twenty-one feet; it went ten feet into the ground. The part of the dam was particularly protected by sand bags. When all the bags were in, there was still two feet six inches of water above them. When I got to the spot on the morning of the 6th, I found some of the bags displaced; they had slipped out of place. The water was rising, and I attribute the displacement of the bags to the pressure of the water. I joined the Public Works Department

KURUNEGALA TANK COMMISSION.

Evidence.

in 1868 in Kurunegala; after that I was sent to Matale, then to Matale. In 1873 I was in Chilawa with Mr. Case. I then left the Public Works Department and came to Kurunegala and got a contract to supply granite. I then went to Colombo and was employed in the Welikadagaol. I was there two years, and was then discharged. One prisoner lodged with me after he was discharged from prison. Some time afterwards I was ordered to Kalutara, but I did not go as I got a place in Kurunegala. I worked on the esplanade work in charge of prisoners. Mr. Saunders was here then, and he knew what had happened at Welikada. From the time the bund burst I have not been employed. The masons did not strike work. Stones had been collected, but masonry had not been done at the tank until the day before the bund burst. There was no delay caused by a strike amongst the masons. The evening before the accident the first stone was laid; Mr. Case did that himself. The masonry work commenced as soon as we were ready. The masons who struck work were Moorish bricklayers employed on the bridge on the Negombo road. Those men did not suit me for the tank work. I had engaged others. The coffer dam was completed about 24th October. Next morning we commenced to excavate. We were eight or ten days at work at the excavation. Some days I had ten men and some days thirty or forty. The bottom of the foundation was six feet eight inches below the top of the coffer dam in the centre. My work was not delayed at all from want of masons. I had then thirteen men (artificers) working steadily. All the materials were ready.

[Mr. Young was here re-called and the evidence of Mr. Ebert read over to him. Mr. Young having no questions to ask, retired; and Mr. Case was then called in and the evidence of the witness was read over to him.]

Mr. Case. *Question:* On the night before the accident did I not tell you to keep a sharp look out on the work until the masonry was in, and did you not tell me that you slept on the work every night?

Answer: Yes; I said I spent all my time on my work.

Question: Did I not order you to place two responsible watchers, and did you not reply that you thought you had better put up a place for yourself and stop there?

Answer: Yes.

Question: Were you not in the habit of sleeping there?

Answer: I was, but not every night.

Question: Did you sleep there while the coffer dam was being built?

Answer: I did, and I worked at night too.

Question: Did you level the coffer dam yourself?

Answer: No. I had no instruments, but was guided by the level of the water. I maintain that the part of the coffer dam towards the tank was lower than the ends.

Question: Did you not the night of the accident, ask for permission to go and collect skilled labour for the purpose of this work; and did you intimate to me previously that there was any hitch about skilled labour?

Answer: I was so anxious to get on with the work that I asked for an advance to get *further* labour. I never mentioned it before as there was nothing wanting.

Question: Did I not urge you every day, for some days before, to employ masons on the work?

Answer: Yes, but I was bringing close to the work all the materials, and I employed masons as soon as I could.

APPENDIX II.—CORRESPONDENCE.

Appendix.

(1.)—The Provincial Assistant, North-Western Province, to the Director of Public Works.

(Kurunegala Lake.)

No. 842½/32.

Dandagamuwa, 10th November, 1876.

Sir,—In the remarks on the list of works proposed by the Government Agent for 1877, sent to me with your letter No. 400 of the 27th July last, a report is called for from the Public Works Department on the Kurunegala lake. I submitted a report and an estimate for the work proposed therein by letter No. 61 of the 22nd January last, recommending that an endeavour should be made to destroy the weeds and grass by repeatedly cutting them below the surface of the water, so as to prevent their reaching the air. I have known this answer perfectly well in the case of the lotus, and would suggest that it should be tried on a part of the lake, and, if found to answer, the operation might be extended. The experiment could be carried on at a small cost, and without running any risk. Under estimate No. 17, sanctioned 20th January, 1874, amounting to 2,000 rupees, an attempt was made to drag the matted weeds and grass from the surface of the water to the shore, and about 1,500 rupees was thus expended without any effective results.

The Government Agent now proposes to cut through the dam near the deepest part of the lake for the purpose of running off the water in dry weather so as to be able to dig out the roots of the vegetation and burn them. This plan, I am informed, has already been under consideration, and was abandoned in consequence of the adverse opinion of the medical authorities, who considered that the process would be very likely to cause the outbreak of some virulent epidemic. Another objection has been urged against this scheme, founded on the assumption that the vegetation would be as thick as ever again in a very short time. An experiment might be easily made by means of a coffer dam constructed so as to allow a small extent of some shallow portion of the lake to be laid dry and thoroughly freed from weeds.

In the absence of any positive information on the subject, I submit that it would be better to try either one or the other or both of these experiments, on a small scale in the first instance, and to be guided by the results, rather than to spend a considerable sum of money on an attempt which might, like that last made, end in total failure, and which in one case might be attended by disaster.

I am, &c.,
JNO. DENT YOUNG.

(2.)—The PROVINCIAL ASSISTANT, North-Western Province, to the GOVERNMENT AGENT, North-Western Province.

No. 156/32. Kurunegala, 14th November, 1876.

SIR,—I HAVE the honor to forward for your observation an estimate amounting to 3,000 rupees for clearing the Kurunegala lake, and request that it may be returned to me for transmission to Colombo.

I have also to annex copy of a letter addressed by me to the Director of Public Works, dated Dandaganuwa, 10th instant, No. 842½/32.

I am, &c.,
EDWARD CASE,
for Provincial Assistant.

(3.)—The GOVERNMENT AGENT, North-Western Province, to the PROVINCIAL ASSISTANT, North-Western Province.

No. 1265/155. Kurunegala, 15th November, 1876.

SIR,—I HAVE the honor to return to you the estimate for clearing the Kurunegala lake, received with your letter of yesterday's date, and to request that you will inform me what it provides for. Is it to give effect to the two trial schemes proposed by you in your letter to the Director, or to carry out the scheme proposed by me?

I beg to correct one statement in your letter, to the effect that I intended to cut through the bund. I did not propose to do this, as I am informed that the sluice is at such a level that the tank can be thoroughly emptied by it. I am quite willing to fall in with your suggestion to try experiments, if, when you inform me to what extent you propose to carry them, I am satisfied that they are on a proper scale.

I am, &c.,
F. R. SAUNDERS.

(4.)—The PROVINCIAL ASSISTANT, North-Western Province, to the GOVERNMENT AGENT, North-Western Province.

No. 158/32. Kurunegala, 17th November, 1876.

SIR,—I HAVE the honor to acknowledge receipt of your letter No. 1,265/155 of the 15th instant.

The estimate is to give effect to the two trial schemes proposed by me in my report to the Director of Public Works.

Without data, which I do not and cannot possess without experiment, it is impossible to frame an estimate for thoroughly cleansing the lake, nor to determine upon the best means of doing so. For the estimate forwarded to you I propose to cleanse thoroughly as far as the means will allow.

I am, &c.,
EDWARD CASE,
for Provincial Assistant.

(5.)—The PROVINCIAL ASSISTANT, North-Western Province, to the DIRECTOR of PUBLIC WORKS. (*Kurunegala Lake.*)

No. 856/32. Kurunegala, 17th November, 1876.

SIR,—ESTIMATE for the Kurunegala lake, forwarded, together with copy of a letter received by me from the Government Agent, and my reply thereto.

EDWARD CASE,
for Provincial Assistant.

OFFICE NOTE.—*Annexures.*

G. A. to P. A. No. 1265/155 of 15th November, 1876.
P. A. to G. A. „ 158/32 of 17th do.

(6.)—The GOVERNMENT AGENT, North-Western Province, to the PROVINCIAL ASSISTANT, Northern-Western Province.

No. 1275/155. Kurunegala, 17th November, 1878.

SIR,—In reply to your letter No. 158/32 of 17th November, I beg to state that I desire to know what extent of tank you propose to enclose with a coffer dam in order to try the means of clearing proposed by me, and what extent of tank you propose to treat in the manner suggested by you.

I am, &c.,
F. R. SAUNDERS.

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(7.)—The PROVINCIAL ASSISTANT, North-Western Province, to the GOVERNMENT AGENT, North-Western Province.

No. 163/32. Kurunegala, 20th November, 1876.

SIR,—WITH reference to your letter No. 1275/155 of the 17th instant, I have the honor to state that in the first instance I propose to experiment as regards both plans upon a small scale, and then to watch the result before deciding to what extent it is possible on either plan, if successful, to carry on the work of cleansing the lake.

I am, &c.,
EDWARD CASE,
for Provincial Assistant.

(8.)—The GOVERNMENT AGENT, North-Western Province, to the PROVINCIAL ASSISTANT, North-Western Province.

No. 1458/155. Kurunegala, 24th December, 1876.

SIR,—I HAVE the honor to acknowledge receipt of your letter No. 163/20 of the 20th November, and to state that owing to my having left for Puttalam on the day of its receipt, it has accidentally escaped notice until now.

I beg to point out to you that it in no way replies to my questions, which are simply these:—

What extent of tank do you propose to enclose with a coffer dam on your estimate of 3,000 rupees, in order to try my experiment of clearing out the tank; and what extent of tank do you propose to experiment on by repeated cutting of the weeds below the surface of the water?

It is necessary that I should know to what extent you propose to experiment before I can express an opinion (as the Director of Public Works has asked me to do) on the worth of risking the amount of the estimate.

I am, &c.,
F. R. SAUNDERS,

(9.)—The PROVINCIAL ASSISTANT, North-Western Province, to the GOVERNMENT AGENT, North-Western Province.

No. 1/32. Kurunegala, 4th January, 1877.

SIR, WITH reference to your letter No. 1458/155 of the 24th ultimo I beg to state that my estimate for making experiments on the Kurunegala lake is merely nominal, and that I cannot in any way specify the amount of work to be done under it. I have no data whatever to serve for guidance, and it would be mere deception to fix prices for any particular extent of work, the cost of which is utterly unknown. The estimate is required to enable me to fix the cost of work, which, until actual trial be made, cannot be defined.

I am, &c.,
JNO. DENT YOUNG.

(10.) The GOVERNMENT AGENT, North-Western Province, to the PROVINCIAL ASSISTANT, North-Western Province.

No. 214/155. Kurunegala, 10th February, 1877.

SIR,—I HAVE the honor to annex for your information extract of correspondence with the Hon'ble the Colonial Secretary, and to request you will be good enough to let me know as soon as possible what steps you propose to take to expend this money in clearing the Kurunégala lake.

I must ask you to be good enough to bear in mind that this vote is to be expended in direct communication with me and subject to my approval of the means proposed to be adopted.

I am, &c.,
F. R. SAUNDERS.

Extract of Letter referred to.

No. 585/1. 15th December, 1876.

SIR,—THE only other work in the Kurunégala district which I press for is the clearing out and repairing of the Kurunégala lake or tank. The health of the people and their supply of water for drinking and bathing purposes depends much on this tank, which is filling up so fast that if something be not done, and that quickly, the whole tank will be converted into an unhealthy swamp, reeds, and grass. I have taken the opinion of Captain Woodward, Messrs. MacBride, Coterill, and Parker, and I believe all concur with me in thinking that to drain the tank and cut out the roots of these weeds (a by no means difficult task) will be a very effectual and proper way of curing the evil so long complained of.

If the Government cannot grant me the 10,000 rupees, I beg it will allow me 3,000 rupees to do the work partially according to the estimate prepared by the Public Works Department. Prison labour would be employed on this work.

F. R. SAUNDERS.

(11.)—The PROVINCIAL ASSISTANT, North-Western Province, to the GOVERNMENT AGENT, North-Western Province.

No. 57/32. Kurunegala, 19th February, 1877.

SIR,—WITH reference to your letter No. 214/255, I have the honor to state that I have received no notice of the sanction of the estimate you refer to, but when I do I shall confer with you as regards the expenditure of the vote.

I am, &c.,
EDWARD CASE,
for Provincial Assistant.

(12.)—The DIRECTOR OF PUBLIC WORKS, to the PROVINCIAL ASSISTANT, North-Western Province.

No. 170. Colombo, 6th April, 1877

SIR,—I REQUEST you will be good enough to proceed with the work of the clearing of the Kurunegala lake in anticipation of the formal sanction of the estimate.

R. TATHAM,
for Director of Public Works.

(13.)—The PROVINCIAL ASSISTANT, North-Western Province, to the GOVERNMENT AGENT, North-Western Province.

No. 114/32. Kurunegala, 7th April, 1877.

SIR,—BEGGING reference to my letter No. 57/32 of the 19th February, I have now the honor to annex copy of a letter from the Director of Public Works No. 170 of yesterday's date, and to solicit an expression of your wishes as regards the work to be undertaken on the Kurunegala lake, for which I beg to enclose copy of the estimate.

I am, &c.,
JNO. DENT YOUNG.

(14.)—The GOVERNMENT AGENT, North-Western Province, to the PROVINCIAL ASSISTANT, North-Western Province.

No. 545/155. Kurunegala, 16th April, 1877.

SIR,—IN reply to your letter No. 114/32 of the 7th April, I have the honor to state that in my opinion it is now too late to begin the work of clearing the lake this season.

The estimate, as you stated in your letter to me No. 158/32, is to give effect to two trial schemes; one "to destroy the weeds and grass by repeatedly cutting them below the surface of the water so as to prevent their reaching the air." This I call your scheme, and I agreed to the experiment being tried, as you stated it could be carried on at a small cost.

The second scheme, which I advocate, is to drain the tank by the sluice, and to cut down and burn off the weeds and rubbish. This must be done in the dry season. It cannot of course be done thoroughly for 3,000 rupees, but this sum is granted to enable you to experiment as suggested in your letter No. 842½/32 to the Director "by means of a coffer dam constructed so as to allow a small extent of some shallow portion of the lake to be laid dry and thoroughly freed from weeds."

When you have selected a suitable site for the proposed coffer dam I shall be glad to visit the spot with you, and to learn exactly the steps you propose to take when the next dry season sets in.

I am, &c.,
F. R. SAUNDERS.

(15.)—The PROVINCIAL ASSISTANT, North-Western Province, to the GOVERNMENT AGENT, North-Western Province.

No. 136/32. Kurunegala, 19th April, 1877.

SIR,—WITH reference to your letter No. 545/155, I beg to state that I fully agree with you in the opinion that it is too late to begin the work of clearing the lake this season.

I would beg to know when you consider that the most favorable time to carry on the work will begin.

I am, &c.,
JNO. DENT YOUNG.

(16.)—The GOVERNMENT AGENT, North-Western Province, to the PROVINCIAL ASSISTANT, North-Western Province.

No. 579/155. Kurunegala, 21st April, 1877.

SIR,—WITH reference to your letter No. 136 of the 19th instant, I have the honor to inform you that the most favourable time for the work you referred to has now passed, but the next time will be during July and August.

I am, &c.,
W. PENNEY,
for Government Agent.

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(17.)—The PROVINCIAL ASSISTANT, North-Western Province, to the DIRECTOR of PUBLIC WORKS.

(*Kurunegala Lake.*)

No. 711/32. Kurunegala, 4th August, 1877.

SIR,—WITH reference the Estimate of Rs. 3000, No. 543 of 11th April, I beg to state that Mr. Saunders informed me that the work was sanctioned on the understanding that it should be carried out altogether under his orders. As the weather was unfavourable from the date of sanction until Mr. Saunders left, nothing was done; and on the return of Mr. Morris I addressed that gentleman on the subject; and beg to annex copy of my letter and of the reply thereto. As the work is altogether of an experimental nature and may very possibly be attended with no beneficial results, I beg to be favoured with your instructions. My original proposal was to endeavour to kill the aquatic plants by repeatedly cutting them under water, so as to keep them from reaching the air. I would only employ a few men at a time in a boat, and would confine the operation to a small space and watch the result; but Mr. Saunders intended to lay the bed of the lake dry and dig out the roots. To do this would, of course, involve a large outlay.

On this subject I submit that valuable information might be obtained from the Government Botanist, or from Mr. Wm. Ferguson, who has made the science of Botany an especial study.

Scientific information obtainable from these gentlemen may be the means of preventing waste of public funds. I also beg to point out that it has been feared that by laying the bed of the lake dry in order to dig out the weeds, a fatal epidemic might be caused.

JNO. DENT. YOUNG.

(18.)—The DIRECTOR OF PUBLIC WORKS to the PROVINCIAL ASSISTANT, North-Western Province.

No. 490. Colombo, 16th August, 1877.

SIR,—WITH reference to your letter No. 711/32 of 4th instant, I beg to inform you that as the estimate for clearing the Kurunegala lake has been sanctioned by Government, you should at once proceed to carry out the work, and as the work progresses I have no doubt that by experience you will find a successful way of carrying it out.

R. TATHAM,
for Director of Public Works.

(19.)—The PROVINCIAL ASSISTANT, North-Western Province, to the GOVERNMENT AGENT, North-Western Province.

No. 247/32. Kurunegala, 17th July, 1877.

SIR,—WITH reference to your letter No. 545/155 of the 16th April, I beg you will be pleased to inform me if you desire the experimental work of clearing the Kurunegala lake under estimate No. 543, sanctioned 11th April last, to be carried out under your responsibility. My own opinion is that the expenditure contemplated will be a waste of public means, and I am not prepared to take the responsibility of incurring it on myself, but I shall be ready to do my best to give effect to any expression of your wishes on the subject.

I am, &c.,
JNO. DENT YOUNG.

(20.)—The GOVERNMENT AGENT, North-Western Province, to the PROVINCIAL ASSISTANT, Kurunegala.

No. 1,152/155. Kurunegala, 18th July, 1877.

SIR,—IN reply to your letter No. 247 of the 17th instant, I have the honor to inform you that I am not disposed to incur any responsibility of a personal nature.

An estimate for the work having been sanctioned, the matter is altogether out of my hands.

I am, &c.,
R. MORRIS.

(21.)—The GOVERNMENT AGENT, Kurunegala, to the PROVINCIAL ASSISTANT, North-Western Province.

Kurunégala Kachchéri,
14th September, 1877.

SIR,—I HAVE the honor to call your urgent attention to the work now being carried on at the bund of the Kurunegala tank.

The tank itself is fuller than usual, so that a breach of the bund would have a more than usually injurious effect, and would in fact probably carry away portions of the bazar below, and occasion loss of life.

This bund is now being cut through in its highest and most solid part by the orders, as I am told, of the Superintending Officer, Mr. Case, with the idea, which seems to me simply ridiculous, of rooting out the vegetation growing in the tank without at the same time letting out the water.

The bund is already very seriously weakened; only 3 or 4 feet thickness of earth remained above the level of the water when I visited it at 7 o'clock this morning; and before this reaches you I fear the tob may have been cut.

I trust you will at once direct this great damage to be stopped and such measures as you may deem necessary to be taken for strengthening the bund where it has been thus weakened, until the lapse of time occasions its settlement and solidification.

I have in the meantime given directions for the immediate opening of the sluice to its widest extent to reduce the volume of water as much as possible, and in the hope of thus saving an accident.

I am, &c.
R. MORRIS.

(22.)—The PROVINCIAL ASSISTANT, North-Western Province, to the GOVERNMENT AGENT, North-Western Province.

No. 316/32. Kurunegala, 14th September, 1877.

SIR,—WITH reference to your letter of to-day's date I beg to state that the operations necessary for clearing the Kurunegala tank of vegetation were decided on after careful and deliberate consideration between the Superintending Officer and myself. Every precaution is being taken to prevent the possibility of any accident. A double sluice gate is being fitted into the opening through which the floating vegetation is to be carried, and at this point the dam will be at least as secure as at any other. I shall be happy at any time to explain the arrangements to you on the spot, and when the plan shall have been fully laid before you I have no doubt that you will at once withdraw your objections to it. In the meantime I would beg of you not to open the sluice gates. Such a measure would greatly retard our operations. I beg to annex copy of your letter No. 1152/155 of the 18th July last, which I forwarded to the Head of my Department, and copy of that officer's reply.

With letter No. 711/32 of 4th August 1878 Reply letter No. 490 of 16.

I would further beg of you to allow me to proceed with the work pending reference to the Director of Public Works, and am prepared to hold myself personally responsible that by no possibility can any damage be done to the dam by my arrangements.

I am, &c.,
JNO. DENT. YOUNG.

(23.)—The GOVERNMENT AGENT, North-Western Province, to the PROVINCIAL ASSISTANT, Kurunégala.

No. 1151/155. Kurunégala, 14th September, 1877.

SIR,—I HAVE the honor to acknowledge receipt of your letter of this day in reply to mine of this morning.

I was quite unaware that the work in progress at the tank had received your sanction, and such being the case it would not be proper for me to offer any objections or give further expression to my unprofessional opinion.

I have therefore caused the sluice to be closed, and herewith forward you the key, requesting you will at the same time make arrangements to secure it being forthcoming at any time should it be required during the absence of yourself and Mr. Case.

I am, &c.,
R. MORRIS.

(24.)—The PROVINCIAL ASSISTANT, North-Western Province, to the GOVERNMENT AGENT, North-Western Province.

No. 317/32. Kurunegala, 14th September, 1877.

SIR,—I BEG to acknowledge the receipt of the key of the sluice sent with your letter No. 1451/155 of this day's date, and to state that it will always be at hand on application to Mr. Case or myself, when either of us shall be in the station, and during the absence of both of us it shall be in charge of the Head Clerk of this office, unless you desire any other arrangement.

I am, &c.,
JNO. DENT YOUNG.

(25.)—The PROVINCIAL ASSISTANT, North-Western Province, to the DIRECTOR of PUBLIC WORKS.

No. 893/32. Kurunegala, 14th September, 1877.

(*Kurunegala Lake.*)

SIR,—WITH reference to your letter No. 490 of the 16th ultimo, I beg to annex copy of a correspondence with the Government Agent on the subject of the operations now being carried on at the Kurunegala lake, and to state that they have not been interrupted. The vegetation to be got rid of is a floating mass in some places 6 feet thick, the lower part of which is 6 feet and over from the bottom of the lake. This mass is easily cut into detached pieces and floated to the banks. The chief difficulty in dealing with it consists in its removal from the surface of the water, and to effect this as cheaply as possible we have made a kind of lock in the bund, into which the detached masses are to be floated. When the lock is filled the upper gate is to be shut and the other opened, so that the floating mass is to be washed over the bund I have had to abandon my original idea, as I find it impossible to cut the vegetation under water, it being in no way connected with the bottom of the lake. Mr. Saunders' plan is equally impracticable, as the spongy mass would take

* G. A. to P. A., Sept. 14.

P. A. to G. A., 316/32, Sept. 14.

KURUNEGALA TANK COMMISSION.

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months to dry at the bottom of the lake, and there is no chance of our ever having a sufficiently long interval of fine weather to allow us to burn it.

Thus far our present arrangements promise to be perfectly successful. The suggestion of the plan belongs to Mr. Case, and the gates are being constructed according to the design which I carried out with advantage on the Uruboka works. I need hardly mention that every precaution has been taken to ensure the dam from injury, and as the Government Agent has withdrawn his objections, it does not appear to me to be necessary to trouble you with further details.

JNO. DENT YOUNG.

(26.)—The DIRECTOR of PUBLIC WORKS to the PROVINCIAL ASSISTANT, North-Western Province.

No. 595. Colombo, 25th September, 1877.

SIR,—I HAVE the honor to approve the suggestion contained in your letter No. 893/32 of the 14th instant, relative to the clearing of the Kurunegala lake.

I am, &c.
A. MURRAY,
for Director of Public Works.

(27.)—The PROVINCIAL ASSISTANT, North-Western Province, to the DIRECTOR of PUBLIC WORKS.

No. 961/32 C. Chilaw, 5th October, 1877.

(*Kurunegala Lake.*)

No. 35 of 2nd October, 1877.

SIR,—I BEG to annex copy of a letter from the Superintending Officer, Kurunegala, respecting the experimental work at the lake, and to represent that I am unable to recommend the proposal to combine the building of the bathing ghaut with the construction of permanent means of floating out the vegetation from the lake, without consulting with Mr. Case on the spot.

I shall return to Kurunegala as quickly as possible and report further on the spot.

I am, &c.,
JNO. DENT YOUNG.

Enclosure from SUPERINTENDING OFFICER.

No. 35. Kurunegala, 2nd October, 1877.

(*Kurunegala Tank.*)

SIR,—I BEG to report that yesterday afternoon the portion of the coffer-dam marked A. B. on sketch annexed was removed and the water was let into the channel made in the dam. Blocks of vegetation were brought up and floated out most successfully. The blocks were about 9 feet square =81 square feet. Most of them were about 3 or 4 feet thick, but one of 6 feet in thickness was passed through the channel without any difficulty. There is therefore no question but that the tank can be cleared at a very moderate cost by means of an open channel through the bund, the bottom of which is 3 feet 6 inches below the level of the tank when full. Just before dark the boards in front and at the back of the bund were closed, watchers were placed, and I gave the overseer orders to take steps early in the morning to strengthen the portions marked CA and BD in sketch.

About 10 P. M. the overseer called me and reported that the water was escaping. I at once hastened to the spot, coolies were collected, and measures taken to stop the flow of water. I did not leave until this had been almost effectually done.

The floating out of the mass of decayed vegetation with which the tank is almost completely covered is beyond all expectation a success. It can by this means be cleared effectually and at a very trifling cost, compared to any other means that could be adopted; but the channel must be more substantially built, and a masonry wall carried down to the solid in front to prevent any risk of scour. I am therefore now at work constructing a thoroughly good coffer-dam, and I propose to build in masonry a foundation to form one of the bathing ghauts for which we have an estimate. The masonry will be carried up to within 3 feet 6 inches of the water level, five feet on each side of the centre of the ghaut, the sides at the same time being completed in every respect. The planks can be fixed to the masonry of the wall shewn on bathing ghaut plan to be built on the face of the bund. After the work of clearing is over the centre portion of ghaut now to be left open will be closed up.

Some damage has been done at the back of the bund, but nothing that cannot be easily repaired. I forward a tracing of the bathing ghaut plan shewing what I propose to do.

With the exception of about an hour there was rain between the hours of 4 P.M. and 9 P.M.

EDWARD CASE.

(28.)—The DIRECTOR OF PUBLIC WORKS to the PROVINCIAL ASSISTANT, North-Western Province.

No. 627. Colombo, 9th October, 1877.

(*Kurunegala Lake.*)

SIR,—Referring to your letter from Chilaw of the 5th instant, I have the honor to inform you that great care must be exercised in making any cutting into the bund of the Kurunegala tank, for if the bund bursts the consequence would be most serious; and to state that you must satisfy yourself that all is safe and secure before allowing this system of clearing the tank of weeds to commence.

J. F. CHURCHILL,
Acting Director of Public Works.

(29.)—The PROVINCIAL ASSISTANT, North-Western Province to the DIRECTOR OF PUBLIC WORKS.

No. 980/82. Kurunegala, 12th October, 1877.

(*Kurunegala Lake.*)

SIR,—I beg to submit copy of a letter from Mr. Case on the subject of the Kurunegala lake, and to state that there is now ample evidence to shew that it is quite impossible to burn off the vegetation at the bottom of the lake, even if all the water could be run off. The substance thrown on the bank shews no tendency to dry, but immediately throws out still more dense vegetation. The only chance of clearing the face of the water is to get rid of the floating masses of vegetation, and the cheapest way of effecting this will be by means of sluices, through which the substance can be floated out in blocks. Experience has shewn that the passage through which it is to be floated must be very strong to render the operation safe, and I submit that the wings of the proposed bathing ghauts will render our work perfectly secure if we form the passages through the ghauts, leaving openings 10 feet wide in the masonry, which can be filled up to complete the ghauts as soon as the lake shall have been cleared. The sites selected for two of the ghauts will answer perfectly well for the required openings. Estimates and plans are being prepared for carrying out this arrangement, and shall be submitted to you as soon as possible. In the meantime our operations are confined to the removal of such of the vegetation as must under all circumstances be removed by manual labour.

JNO. DENT YOUNG.

Enclosure from SUPERINTENDING OFFICER.

No. 40. Kurunegala, 9th October, 1877.

(*Kurunegala Lake.*)

SIR,—THE work of clearing the Kurunegala tank was commenced on the 29th August. Knowing that two unsuccessful attempts had been made and a considerable sum of money expended on each occasion in endeavouring to carry out this work, I had serious misgivings in commencing it; in fact, I anticipated failure. The question had been very fully discussed, especially with Mr. Saunders, the Acting Government Agent, and various schemes had been proposed for effectually clearing the tank.

First one which had the support of Mr. Saunders and also that of Mr. Morris, was to drain the tank by means of the sluice during the dry weather, and then to root out and burn the vegetation. This is not possible, as the sill of the sluice is not at a sufficiently low level to drain any portion of the tank where the vegetation is the thickest. There would still remain 5 to 10 feet of water over about half the area. It would also, I am convinced, be hopeless to expect that at any time of the year there would be a sufficient spell of dry weather, supposing that the tank could be drained, as would prove sufficient for the drying, heaping, and burning of this enormous mass of vegetation. Upon the rains setting in, the work would be stopped, and could only be resumed at a very great disadvantage and expense.

I commenced clearing near the spill and soon found that the vegetation to be got rid of is a floating mass about 6 feet thick. Beyond a few feet from the edge of the water it has not taken root in the ground. It is easily with long knives cut into large blocks and floated up to the bank, but the labour of then cutting it up and removing it from the water soon led me to devise, if possible, some plan more expeditious and less costly than that of employing coolies. I then attempted by means of a winch, ropes and boards, to haul it over the spill, but found that though this was an improvement upon the former mode of operation, yet that it would probably take several years to clear the tank, and could only be done at an enormous cost. The idea of forming a channel in the bund for the purpose of floating out the vegetation then occurred to me; and upon your return to Kurunegala I brought it to your notice. You approved of the plan, and the very best site, I am sure, for the channel was selected. It is not necessary that I should describe in detail the plan of the opening or channel we jointly determined upon constructing; but that it was in the first instance to be constructed in a temporary manner, to be replaced by a permanent structure should the floating out of the vegetation prove successful, was understood. I will not here either discuss the mishap to the temporary channel, as I have dealt with it in a separate report; but that the floating out of the vegetation is beyond all expectation a success, justifying the expenditure necessary to build a solid masonry channel, I am prepared beyond all question to prove. I am convinced that in no other way can the tank be cleared for a sum of money the Government would be likely to grant, and I have, as I shall shew you, studied the cost most carefully.

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The tank, as Mr. Mantell of the Survey Department informs me, is in extent 104 acres. From measurements I have had taken, I find that one third of its area is covered with reeds and aquatic plants, which must be removed by coolies working in the water and upon rafts. The cost of this work I find is 65 rupees per acre. The remaining two-thirds, or say 70 acres, is covered with the thick vegetation before described. This must all be cut into blocks and floated over the channel to be constructed in the bund. There was cleared near the spill 0·15 of an acre of the thick vegetation at a cost of 69 rupees, or 460 rupees per acre. The light clearing can be done say at 70 rupees per acre, and the heavy at 500 rupees per acre, as allowance must be made for the extra cost of working at a distance from the site of removal, and this increases as you go on working. From experiments made, I find that two coolies can cut 12 squares per diem, the cost being 29 rupees per acre, and that an average of 3 coolies per diem will detach and float up 24 squares, the cost being 19 rupees 78 cents per acre, or say a total cost of 50 rupees per acre. My estimate for clearing the tank, therefore, stands thus :—

34 acres light clearing @ Rs. 70 ...	Rs.	2,380
70 „ heavy to be floated over the bund .. @ Rs. 50 ...		3,500
Cost of masonry channel		1,400
	Rs.	7,280
Casualties		728
Total ...	Rs.	8,008

Say 8,000 rupees.

By hauling it over the spill it would cost as follows :—

34 acres light clearing @ Rs. 70 ...	Rs.	2,380
70 „ heavy ... @ Rs. 500 ...		35,000
	Rs.	37,380
Casualties		3,738
Total ...	Rs.	41,118

Or say 41,000 rupees.

These figures, which I trust you may most carefully scrutinize, should convince any one that either the plan of floating out the thick vegetation must be adopted, or all idea of clearing the Kurunegala tank abandoned.

Borings have been taken, and I find that a solid foundation for the masonry work at the channel exists at 7 feet below the water level of tank when full. So there will be no difficulty, as soon as the coffer-dam is finished, in pushing on with the masonry work.

Before leaving the subject of the Kurunegala tank, I desire to bring to your notice the necessity of providing in future for its upkeep. A sum of 600 rupees will, I believe, be sufficient; but it is absurd to spend a large sum of money in clearing it, if steps are not to be taken to keep it clear. Four or five coolies daily employed with a boat or raft would without difficulty keep it free from vegetation, but unless this is done the money expended on clearing it will be wasted. I believe that this floating mass was originally formed by aquatic plants taking root round the borders of the tank, dying down during the dry weather when the water was low. Upon the water rising to its proper level after the commencement of the rains, this decayed vegetation rose to the surface of the water and became bound together by the new growth rapidly finding its way above water. Seeds of grass, ferns and other plants were by the wind deposited upon it and took root, the mass thus increasing and gradually spreading over the whole area of the lake, and increasing of course in thickness by fresh deposits of decayed vegetation. If this theory of its formation be correct, it is especially necessary to keep the borders of the tank free of all growth.

I estimate that up to date about 8 acres of light clearing has been done, and I shall take steps to have what is cleared kept free of all growth during the time we are at work.

EDWARD CASE.

(30.)—The PROVINCIAL ASSISTANT, North-Western Province to the DIRECTOR of PUBLIC WORKS.

No. 1030/32. Kurunegala, 22nd October, 1877.

(*Kurunegala Lake.*)

SIR,—WITH reference to previous correspondence and verbal communication, I beg to submit a plan and estimate for the construction of a sluice through the dam of the Kurunegala lake, for the purpose of getting rid of the floating vegetation. It is proposed to build the bathing ghaut on the site, and to make a sluice through it. When the work of clearing shall be completed, the centre portion of the ghaut can be built up. In this way no special estimate will be required, as we can spend the amount required in addition to the ghaut estimate out of the estimate for clearing the lake.

JNO. DENT YOUNG.

APPENDIX III.

ESTIMATE of the Expenses necessary to be incurred for filling up the breach at the Kurunégala Tank.

Plan or description.	Particulars.	Portion of work to be performed by Contract or otherwise.	TOTAL.
This estimate provides for closing up the breach at the Kurunegala tank as shewn in the accompanying section, and making good two flips ..	1600 cubes earthwork at Rs. 2 ...	Rs 3,200 ...	Rs. 3,200
	Casualties ...	...	320
		Total ...	Rs. 3,520

Kurunegala, 10th November, 1877.

JNO. DENT YOUNG,
Provincial Assistant.

APPENDIX VII.

RETURN of Rainfall at Kurunégala in September, October, and November, from 1871 to 1877.

Years	September.		October.		November.		Total number of inches.	Total number of days.	
	No. of inches.	No. of days on which rain fell.	No. of inches.	No. of days on which rain fell.	No. of inches.	No. of days on which rain fell.			
1871 ...	2 89	15	17·92	19	7·65	25	28·46	59	
1872 ..	22 54	26	7·11	17	13·19	21	42 84	64	
1873 ..	·32	10	11·26	10	6 31	13	17 89	33	
1874 ..	3·49	12	18·15	19	17 39	15	39·03	51	
1875 . ..	5 28	13	11·94	8	10·26	23	27 48	44	
1876 ...	4·51	10	16·26	18	4·94	8	25·71	36	
1877 ..	7·16	14	17·10	21	40·90	24	65·16	59	31st October, 1·95 inches; 1st and 2nd Nov. Nil; 3rd November, ·72. 4th November, 1·28, 5th November, 1·55 inches.

EDWARD CASE.

KURUNEGALA TANK COMMISSION.

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APPENDIX VI.

From Messrs. J. G. JAYATILEKE and R. P. JAYAWARDANA to the GOVERNMENT AGENT, Kurunegala.

Kurunegala, 23rd November, 1877.

SIR,—IN compliance with your request we beg to submit the following as our opinion in respect to the damages caused by the flood, owing to the bursting of the Kurunegala tank on the 6th instant

The damages to private individuals are three-fold:—

1st.—Damages to houses;

2nd.—Damages to property or, in other words, loss of goods.

3rd.—Damages to fields.

1.—Under this head it is to be noticed that no serious damage has been done to any substantially built house, and a greater portion, if not all, of the houses that have been thrown down were, in fact, a disgrace to a provincial town like Kurunegala. However, some of the owners of these houses being the poor residents, if they are not fairly compensated for the loss, they will find it extremely difficult to secure means to put up new dwellings; we therefore estimate the damages to the houses at 3,000 rupees.

2.—Under the head "loss of goods," which consisted chiefly in bazaar stuffs, it is impossible to arrive at a fair valuation, because it has to be based on the information of the sufferers alone, which we suspect will be highly exaggerated now; but as we were personally present at the spot when this unfortunate accident happened, we believe that 1,500 rupees will be the maximum valuation for all the lost goods; but we fear that it will be found almost impracticable to distribute any money fairly on this account in due proportion to the actual probable amount of loss sustained in this wise by each individual.

3.—And, lastly, under the head "damages to fields," we are of opinion that although many have sustained loss, inasmuch as their fields with young crop have been covered with large heaps of floating vegetation, black mud, and sand from the tank, carried down by the flood, and having the ridges of fields washed off in many places, yet in course of time these fields will be greatly benefited by having such a large supply of rich manure, which has been brought to them without the least expense or labour on the part of their respective owners. However, three-fourths of these fields, wherein the floating vegetation, black mud, &c., have been deposited very thick, cannot, in our opinion, be brought under cultivation for another harvest, besides the one which has already been obstructed; but the remaining one-fourth, wherein these deposits are not so thick, can be cultivated for the next Yala harvest with hopes of much gain, though with little more labour than usual.

The total probable extent of fields thus damaged would be about 25 amunams or 50 acres. Three-fourths of these—*i.e.*, 18¾ amunams or 37 acres and 2 roods—would be the area covered with mud, &c., to that extent which would deter the cultivation for about a year or so, and the one-fourth—*i.e.*, 6¼ amunams or 12 acres and 2 roods—would be the extent of fields that could be with much advantage brought under cultivation during the next Yala harvest. For brevity sake we will call these two descriptions of fields "much damaged" and "less damaged."

In order to determine the compensation which should be accorded to the respective owners of the above two descriptions of fields, we beg to suggest that the following items be taken into consideration:—

(1.) To give full value of the seed paddy sown in all the fields at 10 rupees per amunam.

(2.) To give the value of labour lost in preparing the said fields for sowing, including fencing, &c., at 20 rupees per amunam.

(3.) And to grant a premium of 50 rupees and 25 rupees respectively to all the above two descriptions of fields, viz., "much damaged," and "less damaged."

Accordingly, our assessment will stand thus, viz.:—

		Rs.	Cts.
(1.)	Value of seed paddy for the 25 amunams in extent of land, at 10 rupees per amunam	250	0
(2.)	Value of labour, &c., lost in the above, at 20 rupees per amunam	500	0
(3.)	Premium for the "much damaged" fields, 18¾ amunams in extent, at 50 rupees	937	50
	Premium for the "less damaged" fields, 6¼ amunams in extent, at 25 rupees per amunam ...	156	25
	Total—Rs.	1,843	75

We have, &c.,

J. G. JAYATILEKE,

R. P. JAYAWARDANA.

XIII.

REGISTRATION OF DEEDS, &c.

RETURN to an ORDER of the LEGISLATIVE COUNCIL of CEYLON, dated 28th November, 1877.

"That a return be furnished shewing (from the 1st January, 1876, to the 31st October, 1877) the number of deeds sent for registration to the offices at Colombo and Kandy of the Registrar-General of Lands, the dates when these were received and returned, the total amount of Stamps used (1) for the documents themselves, and (2) for their registration, the number of Clerks employed for this work, and the total cost of the Establishment during this period. This return to include also the number of Applications for Certificates of Encumbrances and copies of Deeds, and the total amount of Stamps levied for this purpose."

(The Hon. Sir M. Coomara Swamy.)

Ordered by His Excellency the Governor to be Printed.

COLOMBO.

WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

REGISTRATION OF DEEDS, &c.

The REGISTRAR-GENERAL to the Hon. the COLONIAL SECRETARY.

No. 269.

Registrar-General's Office,
Lunugala, 12th December, 1877.

REGISTRATION OF DEEDS, &c.

COLOMBO AND KANDY.

SIR,—WITH reference to your letter of the 5th instant, No. 223, I have the honor to forward herewith a return shewing some of the particulars required by the motion forwarded to me, and to state that the other information cannot be given.

Deeds are entered in the Day-Book on the day they are received. The preparation of certificates is in arrear in Colombo for from one and a-half to two months, and in Kandy for about two and a-half months.

No record is kept of the stamps used for the documents themselves or of the dates when documents are returned after registration.* Many deeds remain in the office for months after they are ready for delivery, until the owners call for or send for them.

I may mention that the clerks who register deeds have also other work to attend to.

I am, &c.,

ALLANSON BAILEY,
Registrar-General.

* I have since been informed that in Colombo a note is kept of the date of return of deeds. The statement called for can therefore be prepared, if required, but it will take a long time to prepare it (for there were upwards of 25,000 deeds received at Colombo and Kandy during the 22 months); and, as I have stated above, the delay in returning deeds to owners is not all on the part of this Department

RETURN shewing (from 1st January, 1876, to 31st October, 1877) the number of Deeds received for registration in each month at the Colombo and Kandy Land Registrars' Offices, the value of Stamps used, the number of Clerks employed for this work, and the total cost of Establishment; including also the number of Applications received and number of copies of Deeds and Certificates of Encumbrances issued, and the total amount of Stamps levied for this purpose.

Land Registrar's Office, Colombo.

Month.	No. of Deeds received.	Value of Stamps. Rs.	Cts.	No. of Clerks.	Total cost of Establishment Rs	Cts.	Applications	Copies and Extracts	Total value of Stamps. Rs.	Cts.
1876.										
January	254	709	0	7 (including one extra clerk.)						
February	270	1,053	0							
March	362	1,475	0							
April	248	748	0							
May	365	1,237	50							
June	426	1,215	0							
July	446	1,823	50							
August	456	1,710	0							
September	452	1,598	0							
October	435	1,157	0							
November	421	1,126	50							
December	410	1,307	50							
Total for the year	4545	15,160	0		7,273	29	357	308	665	0
1877.										
January	383	1,156	50							
February	524	1,460	0							
March	581	1,668	0							
April	499	1,194	50							
May	750	1,788	0							
June	714	1,846	50							
July	759	2,127	0							
August	619	2,742	50							
September	525	1,367	0							
October	624	1,749	0							
Total for 10 Months ending 31st Oct. 1877.	5,978	17,089	0		6,043	66	998	249	1,247	0
Total for 22 Months	10,523	32,249	0		13,316	95	1355	557	1,912	0

REGISTRATION OF DEEDS, &c.

COLOMBO AND KANDY.

Land Registrar's Office, Kandy.

Month.	No. of Deeds received	Value of Stamps. Rs. Cts.	No. of Clerks	Total cost of Establishment Rs. Cts	Applications	Copies and Extracts	Total value of Stamps. Rs. Cts
1876.							
January	558	2,472 0	9 (including Registrar and 2 extra clerks.)				
February	666	2,765 0					
March	729	3,595 0					
April	460	3,512 50					
May	585	3,643 50					
June	569	5,553 50					
July	521	3,220 50					
August	443	3,480 0					
September	507	2,394 0					
October	497	2,815 50					
November	697	2,186 50					
December	704	5,071 0					
Total for the year	6,936	59,639 0		11,523 13	306	385	691 0
1877							
January	686	3,111 50					
February	939	5,522 0					
March	919	5,294 50					
April	739	4,272 0					
May	875	4,857 0					
June	807	4,293 0					
July	947	5,782 0					
August	984	4,650 0					
September	687	3,004 0					
October	727	3,[illegible]09 50					
Total for 10 months ending 31st October, 1877	8,365	43,[illegible] 50		9,6[illegible]8 41	369	325	694 0
Total for 22 months	15,241	8[illegible] 50		21,181 54	675	710	1,385 0

ALLANSON BAILEY,
Registrar-General.

XIV.

REPORT OF THE COMMISSIONERS

APPOINTED TO INQUIRE INTO

THE SUBJECT OF THE

PROBABLE TRAFFIC BY RAILWAY

BETWEEN

NANU-OYA AND HAPUTALE.

(In continuation of Sessional Paper No. X. of 1878.)

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

From the Hon. the Colonial Secretary to the Chairman, Railway Commission.

Colonial Secretary's Office,
Colombo, 5th August, 1878.

Sir,—I am directed to refer to you the enclosed copy of a Report by the Chief Engineer, Railway Extension Surveys, and to state that reference has been made to the Traffic Manager for an estimate of the probable traffic on the line from Haputale to Nanu-oya.

I am further to transmit to you the enclosed copy of a Resolution received from the Uva Planters' Association, and to request that the Commission will be good enough to consider what charges can be placed upon the traffic between Nanu-oya and Haputale without fear of competition with transport by cart via Ratnapura or hindering the proper development of the railway traffic.

I am, &c.,

J. A SWETTENHAM,
for Colonial Secretary.

The Chairman,
Railway Commission.

Copy of Resolution.

"That railway extension to Haputale be urged forward with a view to its continuance to Ella or Badulla, if practicable, and that the matter of enhanced rates be settled in any way that may be thought most desirable by the Government to meet the required net profit of 6 per cent. on the outlay."

PROBABLE TRAFFIC BY RAILWAY

BETWEEN

NANU-OYA AND HAPUTALE.

REPORT.

The RAILWAY COMMISSIONERS to the Hon. the COLONIAL SECRETARY.

Council Chamber, 22nd August, 1878.

NANU-OYA & HAPUTALE.

PROBABLE TRAFFIC BETWEEN.

Report.

SIR,—WITH reference to your letter of the 5th instant, requesting us to consider what charges can be placed upon the traffic between Nanu-oya and Haputale, we, the Commissioners, have the honor to report that the rates already recommended for the Nawalapitiya–Nanu-oya section, in our letter of the 1st instant, might be imposed upon this section without fear of competition with transport by cart viâ Ratnapura, or hindering the proper development of the railway traffic.

The Commission desire to add that they have excluded from consideration all question of the enhanced profit on the main line, which will unquestionably accrue from the traffic attracted thereto by this extension, which now finds an outlet viâ Batticaloa, Hambantota, or Ratnapura.

An estimate of the probable traffic, framed at the same rates as that transmitted with our letter of the 1st instant, is annexed. It shews a profit to this section exclusively of 4·13 per cent. on the estimated expenditure; and if the profit which will accrue to the Nanu-oya and Nawalapitiya section from this traffic be added, the total profit from the Nanu-oya and Haputale section will be 9·37 per cent. on the capital outlay of 6,888,676 rupees.

Taking the whole traffic on the extension from Nawalapitiya to Haputale at the rate approved, the net profit will be 7·33 per cent. on the outlay of 17,638,676 rupees.

The Commission therefore consider that when both sections are completed the traffic rates recommended in their letter of the 1st instant may safely be reduced.

We have, &c.,

W. H. RAVENSCROFT.
A. B. FYERS, LT.-COLONEL, R.E.
GEO. S. MURDOCH.
GEORGE WALL.
JOHN DUNCAN.
W. D. GIBBON.

Estimate of Traffic for the Nanu-oya to Haputale Pass Section of the Uva Railway Extension.

Distance in miles. From Nanu-oya	Distance in miles. From N'pitiya.	Stations.	Description of Goods.	Haputale and Nanu-oya. Rate per ton.		Haputale and Nanu-oya. Tons.	Haputale and Nanu-oya. Receipts.	Nanu-oya and Nawalapitiya. Rate per ton.		Nanu-oya and Nawalapitiya. Tons.	Nanu-oya and Nawalapitiya. Receipts.	Total. Rate per ton.		Total. Receipts.	Through rates per ton from and to Colombo.	
				Rs.	Cts.		Rs.	Rs.	Cts.		Rs.	Rs.	Cts.	Rs.	Rs.	Cts.
9	51	Ambawella ...	Coffee	1	50	224	336	10	75			12	25	336	24	50
			First Class	5	0	13	65	24	40			29	40	65	51	40
			Rice ...	3	90	240	936	18	40			22	30	936	37	0
			Second Class	3	90	163	636	18	40			22	30	636	37	0
			Manure ...	2	15	106	228	10	0			12	50	228	19	50
21	63	Idulgashena Pass	Coffee ...	4	30	800	3,440	10	75	800	8,600	15	5	12,040	27	30
			First Class	12	10	45	545	24	40	45	1,098	36	50	1,643	58	50
			Rice	9	15	816	7,866	18	40	816	15,014	27	55	22,480	42	25
			Second Class	9	15	580	5,307	18	40	580	10,672	27	55	15,979	42	25
			Manure	5	15	380	1,957	10	0	380	3,800	15	15	5,707	22	50
26	68	Haputale Pass ...	Coffee ..	4	30	16,670	71,681	10	75	14,670	157,703	15	5	229,384	27	30
			First Class...	14	60	780	11,388	24	40	660	16,104	39	0	27,492	61	0
			Rice ..	11	40	14,380	163,932	18	40	12,240	225,216	29	80	389,148	44	50
			Second Class	11	40	10,200	116,280	18	40	8,740	160,816	29	80	277,096	44	50
			Manure ..	6	65	5,250	34,913	10	0	4,300	43,000	16	65	77,913	24	0
			Goods Receipts				419,110				642,023			1,061,133		
			Coaching „				39,000				...			39,000		
			Live Stock „				965				...			965		
			Miscellaneous Receipts				2,000				...			2,000		
			Total Receipts				461,075				642,023			1,103,098		
			Less, Working Expenses ...				176,506				279,960			456,466		
							284,569				362,063			646,632		

Capital, Rs 6,888,676. Profit for the Haputale to Nanu-oya Section, 4·13 per cent.

Profit on the Haputale Section traffic as between Haputale and Nawalapitiya, 9·37 per cent.

The rates in the estimate are the same per ton, per mile as those approved by the Railway Commission on the 1st instant, for the Nawalapitiya—Nanu-oya section of the Extension.

Note.—The estimated total capital expenditure on the whole extension of railway from Nawalapitiya to Haputale Pass is 17,638,676 rupees, and the estimated nett receipts are 1,293,967 rupees, giving a profit of 7·33 per cent. on the capital outlay.

Traffic Manager's Office,
Colombo, 22nd August, 1878.

GEO. S. MURDOCH,
Acting Traffic Manager.

XV.

FURTHER PAPERS

RELATING TO

FLOOD OUTLETS.

(In continuation of Sessional Paper No. XI. of 1878.)

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

SCHEDULE

No	Date	From	To	Page
1	11th June, 1878 ...	The Hon. the Govt Agent, W. P. ...	The Hon the Colonial Secretary ..	3
	Enclosure ..	The Vidana Mudaliyar ...	The Hon. the Govt. Agent, W. P. ..	*ib.*
2	19th July, 1878	The Director of Public Works ..	The Hon. the Colonial Secretary ..	*ib*
	Enclosure No 1 ..	The Provincial Assistant, W. P. .	The Director of Public Works ..	4
	Sub-Enclosure	The Superintending Officer, Negombo ...	The Provincial Assistant, W. P. ..	*ib.*
	Enclosure No 2	The Provincial Assistant, W P.	The Director of Public Works ..	*ib*
	Do No. 3	Do, do, ..	Do. do. ...	*ib.*
3	23rd July, 1878 .	The Hon the Govt Agent, W. P. ...	The Hon. the Colonial Secretary ..	5
	Enclosure	The Asst Govt Agent, Kegalla ...	The Hon. the Govt. Agent, W P. .	*ib.*
4	25th July, 1878 ..	The Hon. the Govt Agent, W. P. ..	The Hon the Colonial Secretary ..	6
	Enclosure	The Mudaliyar, Hewagam Korale .	The Hon. the Govt Agent, W. P. .	*ib.*
5	30th July, 1878 ..	The Hon the Govt Agent, W P ..	The Hon. the Colonial Secretary ..	*ib.*
	Enclosure .	The Asst Govt Agent, Kalutara ..	The Hon. the Govt. Agent, W. P. ..	*ib*
	Sub-Enclosure.	The Mudaliyar, Rayigam Korale ...	The Asst. Govt. Agent, Kalutara .	*ib.*
6	30th July, 1878 ..	The Hon. the Govt. Agent, W. P. ..	The Hon. the Colonial Secretary	7
	Enclosure .	The Mudaliyar, Salputi Korale ...	The Hon. the Govt Agent, W. P. ..	*ib.*

FURTHER PAPERS

RELATING TO

FLOOD OUTLETS.

No. 1.

The Hon. the GOVERNMENT AGENT, Western Province, to the Hon. the COLONIAL SECRETARY.

No. 802.

Government Agent's Office,
Colombo, 11th June, 1878.

SIR,—I HAVE the honor to annex for your information copy of letter No. 258 of the 8th instant, received from the Vidana Mudaliyar.

I am, &c.,
H. C. P. BELL,
for Government Agent.

Enclosure in No. 1.

The VIDANA MUDALIYAR to the Hon. the GOVERNMENT AGENT, Western Province.

No. 258.

Vidana Mudaliyar's Office,
Colombo, 8th June, 1878.

SIR,—I HAVE the honor to report for your information that it has been brought to my notice by the Vidana Arachchi of Nagalagam division—

1. That the water in the Kelani-ganga has risen 12 feet above the ordinary level.

2. That ten houses at Grandpass (Nagalagam), four at Madampitiya, and many of the graves in the Madampitiya cemetery have been submerged.

3. That the wall enclosing the Madampitiya cemetery has fallen down in several places.

4. That a man accidently fell into the Kelani-ganga at Nagalagam, but he was saved by the keeper of the toll-bar there.

5. That a pada-boat was found drifting in the river, and that it was brought on land by the men in charge of toll-bar at Grandpass. That no claimants have as yet appeared.

I beg to state that I shall send you a further report after personal inspection of the divisions (now under water) of this district.

I am, &c.,
D. A. GUNATILAKE,
Vidana Mudaliyar.

No. 2.

The DIRECTOR OF PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

No. 1,397.

Colombo, 19th July, 1878.

SIR,—I HAVE the honor to submit the annexed copies of letters received from the Provincial Assistant, Colombo, reporting the damages done by the recent rains.

I have, &c.,
A. MURRAY,
for Director of Public Works.

FLOOD OUTLETS.

FURTHER PAPERS.

Enclosure No. 1 in No. 2.

The PROVINCIAL ASSISTANT, Western Province, to the DIRECTOR OF PUBLIC WORKS.

No. 678. Colombo, 16 July, 1878.

SIR,—THIS is a specimen out of many reports received of damage done.

The canals will suffer most in many cases. I am quite prepared to learn that navigation will be completely blocked when these floods subside.

F. VINE.

Sub-Enclosure in Enclosure No. 1 in No. 2.

The SUPERINTENDING OFFICER, Negombo, to the PROVINCIAL ASSISTANT, Western Province.

Negombo, 15th July, 1878.

SIR,—THE rainfall here on Thursday, Saturday, and yesterday, was most exceptional, resulting in what is said to be the greatest flood ever known at Negombo; and I regret to have to report that great damage has been done to the roads and canals in this neighbourhood. I have not yet received any information from the more distant portions of my district, but the road from this place to Colombo is cut or washed away in five different places; the wing walls of a culvert between 18¾ and 19th mile-posts are carried away, and a 5-feet arched culvert at Deahonda Ela (20th mile) is completely wrecked. Traffic is also stopped between this place and Toppu, but I believe the chasm was caused by the natives cutting the road to relieve their flooded houses.

The towing-path at the 3rd mile, Kaymal canal, has been washed away, and the wreck of the bridge at the toll station (5th mile) lies in the canal stopping all traffic. I visited the washing at Deahonda Ela on Saturday evening, but my time yesterday was chiefly occupied in assisting the Government Agent to cut through the bar in order to lower the level of the water in the lake.

I intend to go over the Colombo road to-morrow, and shall, if possible, report myself to you at your office.

E. HOLLAND.

Enclosure No. 2 in No. 2.

The PROVINCIAL ASSISTANT, Western Province, to the DIRECTOR OF PUBLIC WORKS.

No. 681.

SIR,—I HAVE the honor to report that the late floods have done an immense deal of damage to our roads and canals in the Negombo and Kalutara Districts. The damage by silting up the canals will, I fear, prove a most serious item; we are not in a position to ascertain the extent of this damage until the floods subside.

On the Galle road several culverts have been destroyed and the banks of the Galkissa and Wellawatta bridges injured.

On the Negombo and Toppu roads several culverts have been destroyed, and the road broken through in about seven different places.

F. VINE.

Enclosure No. 3 in No. 2.

The PROVINCIAL ASSISTANT, Western Province, to the DIRECTOR OF PUBLIC WORKS.

No. 684. Colombo, 17th July, 1878.

SIR,—I HAVE the honor to forward an additional statement of damage done during the late flood.

Henaratgoda road.—Three culverts washed away.

Kotugoda road.—One small bridge washed away.

Veyangoda road.—One double-arched culvert destroyed, and the abutment of a bridge carried away.

Kotadeniya road.—Four culverts destroyed and several damaged.

F. VINE.

No. 3.

The Hon. the GOVERNMENT AGENT, Western Province, to the Hon. the COLONIAL SECRETARY.

No. 989.

Government Agent's Office,
Colombo, 23rd July, 1878.

SIR,—I HAVE the honor to enclose copy of a letter No. 498 of the 19th instant, from my Assistant at Kégalla.

I am, &c.,
H. P. BAUMGARTNER,
for Government Agent.

Enclosure in No. 3.

The ASSISTANT GOVERNMENT AGENT, Kegalla, to the Hon. the GOVERNMENT AGENT, Western Province.

Assistant Government Agent's Office,
No. 498. Kegalla, 19th July, 1878.

SIR,—I HAVE the honor to report that the exceptionally severe rain on the 15th has caused much damage to roads and bridges throughout this district. As I was obliged to turn back on account of the flood, when on the way to Ruwanwella, I am unable to give full details; but up to the present I find that the planters' road from Ruwanwella to Bulatkohopitiya has suffered severely, and the carrying away of the bridge at Batgangala has rendered it impassable. Heavy landslips are reported on all the mountain roads, and especially on the Gordon's bridge road. I hear the old Kandy road is blocked up between the 61st and 62nd miles in the Kandy district. The Gordon's bridge was four feet under water, from which the extreme height of the flood may be estimated. The Sergeant at Aranayaka reports that the Maha-oya rose 100 feet, but allowance must be made for his powers of imagination and miscalculation. The Dikpitiya bridge, on the main road from Mawanella to Aranayaka, has been carried away. I am glad to find that no loss of life is yet reported in this district, but a body has been recovered which was washed down by the river. I fear the resources of the District Road Committee will be severely strained to repair the damage done, as expenditure on many of the estimates has already been completed.

I am, &c.,
R. W. JEVERS,
Assistant Government Agent.

From the Government Agent, Western Province; date, 23rd July, 1878.—No. 989.
Forwarded to the Director of Public Works for report.

By Order,
J. A. SWETTENHAM.
for Colonial Secretary.

Colonial Secretary's Office,
Colombo, 29th July, 1878.

Public Works Department,
No. 170. Colombo, 15th August, 1878.

I HAVE the honor to state that the Officer in charge of the Kandy road reports that the Dikapitiya bridge has not been carried away.

The only one that suffered was that at Aranayaka, the greater part of the materials of which has however been recovered, and the bridge will very shortly be in order again.

In the meantime traffic is not interrupted.

A. MURRAY,
for Director of Public Works.

From Director of Public Works; date, 15th August, 1878.—Endorsement No. 170.
Forwarded to the Government Agent, Western Province.

By Order,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

Colonial Secretary's Office,
Colombo, 21st August, 1878.

Colombo Kachcheri,
29th August, 1878.

RETURNED with thanks. The report of the Director of Public Works has been communicated to the Assistant Government Agent at Kégalla.

H. P. BAUMGARTNER,
for Government Agent.

FLOOD OUTLETS.

PRINTING PAPERS.

No. 4.

The Hon. the GOVERNMENT AGENT, Western Province, to the Hon. the COLONIAL SECRETARY.

Government Agent's Office,
No. 1,006. Colombo, 25th July, 1878.

SIR,—I HAVE the honor to forward herewith copy of a letter No. 531 of the 16th instant, received from the Mudaliyar of Hewagam Korale.

I am, &c.,
H. P. BAUMGARTNER,
for Government Agent.

Enclosure in No. 4.

The MUDALIYAR of Hewagam Korale, to the Hon. the GOVERNMENT AGENT, Western Province.

Hewagam Korale,
No. 531. Ranala, 16th July, 1878.

SIR,—I HAVE the honor to inform you that the district has again been flooded. The road from Sedawatta to Kaduwela is almost entirely under water and the height of water on the high road at Kaduwela is about six feet; the height of water from Nawagamuwa to Badahallamulla varies from three to four feet, and on the line of road from Ranala to Wakoya bridge there is water to the height of about six feet; at Pollathawella eight feet.

The devastation done is very great: several houses have been levelled to the ground and the walls of the greater number have been washed off, leaving only the bare sticks; the minor cultivations such as yams, beans, &c., inclusive of the Muttes and Yala, have been destroyed. Water is still on the increase. Some coolies who were going down to Colombo in a boat were carried away by the current, and a man is said to have been drowned, but the corpse has not been found as yet.

I have, &c.
J. E. PERIS,
Mudaliyar.

No. 5.

The Hon. the GOVERNMENT AGENT, Western Province, to the Hon. the COLONIAL SECRETARY.

No. 1,031. Government Agent's Office,
Colombo, 30th July, 1878.

SIR,—I HAVE the honor to annex for your information copy of letter, No. 608 of the 25th instant and of its enclosure, received from my Assistant at Kalutara.

I am, &c.,
H. P. BAUMGARTNER,
for Government Agent.

Enclosure in No. 5.

The ASSISTANT GOVERNMENT AGENT, Kalutara, to the Hon. the GOVERNMENT AGENT, Western Province.

No. 608. Assistant Government Agent's Office,
Bandaragama, On Circuit, 25th July, 1878.

SIR,—IN annexing for your information copy of a letter No. 268 of the 16th instant, received from the Mudaliyar of Rayigam Korale, I have the honor to inform you that there is reason to anticipate great distress among the natives and heavy loss in this year's grain revenue.

I am, &c.,
H. C. P. BELL,
Acting Assistant Government Agent.

Sub-Enclosure in Enclosure in No. 5.

The MUDALIYAR of Rayigam Korale to the ASSISTANT GOVERNMENT AGENT, Kalutara.

No. 268. Rayigam Korale, 16th July, 1878.

SIR,—I REGRET to inform you that the district has again been flooded by the rains, which commenced about the middle of last week, once more submerging the paddy fields which have already suffered so much from the floods of last month.

It is feared that those of the crops which, with more or less damage, had escaped on that occasion, will be hopelessly injured this time—a misfortune which cannot fail to affect most seriously the condition of the inhabitants, who are already suffering much from the dearness of rice and other necessaries, and the continued general scarcity which has been telling upon all classes of the people for many months past. These floods have greatly interfered with the progress of the assessors' work, rendering it necessary for them, in many cases, to go over the same ground again and again, and to alter and re-write the wattoruwas.

D. D. S. GUNARATNE,
Mudaliyar.

No. 6.

The Hon. the GOVERNMENT AGENT, Western Province, to the Hon. the COLONIAL SECRETARY.

No. 1,028.

Government Agent's Office,
Colombo, 30th July, 1878.

SIR,—I HAVE the honor to annex for the information of Government copy of a letter No. 586 of the 25th instant received from the Mudaliyar of Salpiti Korale.

I am, &c.,
H. P. BAUMGARTNER,
for Government Agent.

Enclosure in No. 6.

The MUDALIYAR of Salpiti Kóralé to the Hon. the GOVERNMENT AGENT, Western Province.

Salpiti Korale, Kesbewa, 25th July, 1878.

SIR, I HAVE the honor to report that the unprecedented heavy downpour of rain on the 12th, 13th, and 14th instant has done considerable damage to this district. The paddy fields, vegetable plantations, and pasture grounds have for the most part been submerged, and from the lodgement of water, for several days unabated, have sustained serious damages. About 100 head of cattle died from starvation; numerous garden walls and buildings have been washed down.

The roads have been seriously injured and in many parts turned into ruts and holes, gravel almost completely washed away, so that the cart traffic has been rendered extremely difficult.

Kesbewa tank has overflowed its bund, but no damage sustained.

I am, &c.,
P. PANDITTESEKERA,
Mudaliyar.

XVI.

DAMAGES BY FLOODS

IN UVA

AND

THE EASTERN PROVINCE.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

SCHEDULE.

I.—UVA.

No	Date	From	To	Page.
1	8th January, 1878 ..	The Director of Public Works ...	The Hon. the Colonial Secretary ...	3
	Enclosure ..	The Provincial Assistant, Uva ..	The Director of Public Works ..	*ib.*
2	18th January, 1878	The Hon. the Colonial Secretary ...	The Director of Public Works ...	*ib.*
3	15th January, 1878	The Acting Secretary, Haputalé Planters' Association	The Hon. the Colonial Secretary ..	4
4	29th January, 1878	The Director of Public Works ...	Do ..	*ib*
	Enclosure	The Provincial Assistant, Uva ..	The Director of Public Works ..	*ib*
5	5th February, 1878 ...	The Hon. the Colonial Secretary ...	Do. ...	*ib.*
6	9th March, 1878 ..	The Director of Public Works ...	The Hon. the Colonial Secretary ..	*ib*
7	23rd March, 1878 ...	The Hon. the Colonial Secretary .	The Director of Public Works ...	5
8	Do	Do do. ...	The Acting Secretary, Planters' Association, Haputale	*ib.*

II.—EASTERN PROVINCE.

No.	Date.	From	To	Page
1	9th January, 1878 .	The Government Agent, E P .	The Hon. the Colonial Secretary .	5
2	11th January, 1878 .	Do. .	Do.	6
3	15th January, 1878 ..	The Director of Public Works .	Do.	*ib.*
	Enclosure No 1	The Provincial Assistant	The Director of Public Works	*ib.*
	Enclosure No. 2..	Do. ..	Do.	7
4	29th January, 1878 .	The Hon. the Colonial Secretary . .	Do.	*ib.*
5	24th January, 1878 . .	The Director of Public Works . .	The Hon. the Colonial Secretary ..	*ib.*
	Enclosure ..	The Provincial Assistant . ..	The Director of Public Works ..	*ib.*
6	21st February, 1878 ..	The Director of Public Works . .	The Hon. the Colonial Secretary ..	9
7	8th March, 1878 ...	The Hon. the Colonial Secretary ..	The Director of Public Works ..	11
8	—	Return of Rainfall in the Eastern Province during January, 1878.	—	*ib.*

DAMAGES BY FLOODS IN UVA AND THE EASTERN PROVINCE.

I.—UVA DISTRICT.

No. 1.

The Director of Public Works to the Hon. the Colonial Secretary.

No. 24. Colombo, 8th January, 1878.

Sir,—I have the honor to forward for the information of Government copy of Mr. Ormsby's letter of the 4th instant, No. 25, on the subject of a serious slip on the trunk road between Ratnapura and Haputalé road, near the 98th mile-post.

I proceed to-morrow to inspect the damage done, and will report as soon as I have made a careful examination of the locality; meanwhile the advertisement suggested by the Provincial Assistant will at once be inserted in the local papers.

I have, &c.,
J. F. CHURCHILL,
Acting Director of Public Works.

Enclosure in No. 1.

The Provincial Assistant, Uva, to the Director of Public Works.

No. 25. Halpé, January 4th, 1878.

Sir,—I regret to have to report that the landslip at Halpé has increased to such an extent that I see no possibility of ever forming a road on the original line. The moving surface is now upwards of ten acres in extent and is evidently of great depth.

The original road has entirely gone; portions of the culverts are visible 300 yards below. Mr. Christie informs me that no less than nine temporary roads have been formed and disappeared with the slip.

A large force of coolies is constantly employed laying planks and brushwood, and assisting the carts across. In addition to this, another slip has commenced about 200 yards nearer Haldummulla, which threatens to become equally bad. The stoppage of traffic is beginning to be seriously felt in Badulla and Haldummulla.

The only way I can now see of avoiding these difficulties is by forming an entirely new road from a point about two miles below the slip and joining the present road about half a mile above the slip.

From an examination of the country I made to-day I am nearly sure the levels will admit of this. The length of the new road will not be more than three miles, and the cost probably about 60,000 rupees.

I shall commence tracing a road at once, and shall have lines built, so that if this proposal meets with the approval of Government a large force of labour can be at once put on the road, and the work perhaps completed within this year.

I would suggest that the following advertisement be inserted in the local papers:—

"Consignors of rice and other goods to Badulla are recommended to send by Nuwara Eliya, as the road to Haldummulla near Halpé is almost impassable for carts, and may at any time become entirely so."

R. D. ORMSBY.

No. 2.

The Hon. the Colonial Secretary to the Director of Public Works.

No. 99. Colombo, 18th January, 1878.

Sir,—I am directed to acknowledge the receipt of your letter of the 8th instant, No. 24, and to urge the importance of pushing on with all speed the re-construction of the portions of the Haldummulla road which have been damaged by landslips.

I am also to approve the publication in the local papers of the notice proposed by you.

I have, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

DAMAGES BY FLOODS.

UVA DISTRICT.

Referred to Director of Public Works for early report—19th January, 1878

No. 3.

The ACTING SECRETARY to the Haputalé Planters' Association to the Hon. the COLONIAL SECRETARY, Colombo.

Kilburn, Lemastota, 15th January, 1878.

SIR,—I HAVE the honor to annex copy of a resolution passed at a Committee meeting of the Haputalé Planters' Association held at Lemastota on the 11th instant.

I have to beg that you will favour the Association with information on the subject referred to.

I have, &c.,
JOHN H. CAMPBELL,
Acting Secretary, Haputalé Planters' Association.

Resolution referred to.

"That the Acting Secretary be requested to write to the Hon. the Colonial Secretary, and to enquire what steps are being taken at Halpé to prevent continued interruption of traffic on the road there, and to inform him that there is much surplus labour in this district available for any work that may be undertaken *now* in connection with the slip on the road."

No. 4.

The DIRECTOR of PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

Reply to reference dated 19th January, 1878.

No. 20.

I HAVE the honor to annex report of the Provincial Assistant, Uva.

Public Works Department,
Colombo, 29th January, 1878.

A. MURRAY,
for Director of Public Works.

Enclosure in No. 4.

The PROVINCIAL ASSISTANT, Uva, to the DIRECTOR OF PUBLIC WORKS.

No. 203.

January 26th, 1878.

SIR,—THE temporary road across the slip at Halpe is still open, and is sufficiently good to cause no great delay to through traffic.

A new road to avoid the slip is being traced.

When we commence work on this, which I hope to do early in February, if we require labour we shall apply to the Haputalé Planters.

R. D. ORMSBY.

No. 5.

The Hon. the COLONIAL SECRETARY to the DIRECTOR OF PUBLIC WORKS.

No. 202.

Colombo, 5th February, 1878.

SIR,—WITH reference to your report No. 20 of the 29th ultimo, I am directed to request you to furnish me with an estimate for the deviation at Halpé as early as possible.

I am, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 6.

The DIRECTOR of PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

No. 537.

Colombo, 9th March, 1878.

SIR,—REFERRING to your letter No. 202 of the 5th ultimo, I have the honor to submit an estimate amounting to 20,493 rupees, which provides for making one and-a-quarter mile of new road to avoid the two landslips at Halpe, and to state that, as it is a matter of such great importance to get this work completed as soon as possible, it has been commenced in anticipation of the sanction of the estimate.

The temporary road through the landslips is in good order, and loaded carts can pass over it without any difficulty; but there is great danger of its becoming impassable, should heavy rains set in, as the whole mountain side is sliding down into the valley below.

I have, &c.,
A. MURRAY,
for Director of Public Works.

No. 7.

The Hon. the Colonial Secretary to the Director of Public Works.

No. 492.

Colonial Secretary's Office,
Colombo, 23rd March, 1878.

Sir,—With reference to your letter No. 537 of the 2th instant, I am directed to acquaint you that the Governor has been pleased to sanction the estimate therewith forwarded, which is herewith returned to be headed.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 8.

The Hon. the Colonial Secretary to the Acting Secretary, Planters Association, Haputalé.

23rd March, 1878.

Sir,—I am directed to acknowledge the receipt of your letter of 15th January, and to acquaint you that every exertion was made by the Department of Public Works to render the road at Halpé passable at the earliest possible date.

The construction of a deviation at this point has now been sanctioned, and it is hoped that its completion will prevent the recurrence of any interruption of communication.

The delay in replying to your letter has been caused by the necessity for making enquiry from the Public Works officers and others concerned.

I am, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

II.—EAS

No. 1.

The Government Agent, Batticaloa, to the Hon. the Colonial Secretary.

No. 14.

Batticaloa Kachcheri, 9th January, 1878.

Eastern Province.

Sir,—I regret to have to report the occurrence here, on the 6th and 7th instant, of excessively heavy rains, which have been followed by one of the highest floods ever known in this district. The rainfall for 24 hours registered here on the morning of the 7th was 10·46 inches; the total fall this month to date, 13·12 inches. The lake rose rapidly from the night of the 6th and 7th until after midnight of the 7th and 8th, and was, I believe, some four feet or more above ordinary level.

The town here was inundated in every direction, and a number of houses have fallen down, among them the Police station. No loss of life, I am glad to say, has been reported.

Communication by road from here to Trincomalee and Badulla has been entirely interrupted, and the high road is said to have been in some places four feet under water. The tappal from the former place has not arrived for nearly a week, and from the latter it is now two days overdue.

The damage done by the flood cannot yet be ascertained, but I fear it will be very great, and the injury to the paddy crops, which cannot but be very widespread, is particularly to be deplored, as it may cause distress and want hereafter.

The only tank that, as far as is yet known, has suffered, is Pulukanawa, where a small bund, quite apart from the main one, has given way.

Telegraphic communication has been for several days interrupted.

I am, &c.,
W. W. HUME,
Government Agent.

P.S.—Report has just been received that the bund of the Rukam tank has burst; the breach is six chains in length.

DAMAGES BY FLOODS.

EASTERN PROVINCE.

No. 2.

The GOVERNMENT AGENT, Batticaloa, to the Hon. the COLONIAL SECRETARY.

No. 16. Batticaloa Kachcheri, 11th January, 1878.

SIR,—IN continuation of my letter No. 14 of the 9th instant, I have the honor further to state that each day brings in reports of damage caused by the recent heavy floods. The following tanks are reported damaged, as hereinafter described.

Rukam, a breach at the time of report of about 6 chains or 132 yards in the centre of the bund.

Pulukanawa.—The small bund at one end of the spill breached.

Divilane. Breach in the bund near spill. Three persons missing.

Chudaiyantalawa.—Damaged, but to what extent not yet known.

Amparai.—Small isolated bund broken.

Irakkamam and Sakamam.—No reports yet.*

A number of bridges and culverts on the South Coast road carried away or broken.

Batticaloa and Badulla road.—A large bridge near the rest-house at Maha-oya, 68th mile, between it and the iron bridge over the river, carried away. Nearly every bridge and culvert on the road believed to be more or less injured. A breach in the road at Sengalladi in 94th mile from Badulla.

The Provincial Assistant, Public Works Department, proceeded at once to Rukam on receipt of report of what had happened there, but would have difficulty in getting to the tank, the high road having been up to yesterday in some places submerged, the tappal having been there conveyed by boats.

There has been no post from Trincomalee for more than a week, and I am quite ignorant of what may have occurred there, as the telegraph line still continues interrupted.

It is quite impossible at present in any way to estimate the damage, but it will, I fear, prove very great.

I am, &c.,
W. W. HUME,
Government Agent.

From the Government Agent, Batticaloa; date, January 11th, 1878.—No. 16.

Forwarded to the Director of Public Works for report.

By Order,
J. A. SWETTENHAM,
for Colonial Secretary.

Colonial Secretary's Office,
Colombo, 19th January, 1878.

No. 45. Public Works Department,
Colombo, 1st March, 1878.

I HAVE the honor to refer you to my detailed report No. 417 of the 21st ultimo.

A. MURRAY,
for Director of Public Works.

No. 3.

The DIRECTOR OF PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

No. 77. Colombo, 15th January, 1878.

SIR,—I HAVE the honor to forward for the information of Government copies of letters from the Provincial Assistant, Eastern Province, on the subject of floods in the Batticaloa District.

I am, &c.,
A. MURRAY,
for Director of Public Works.

Enclosure No. 1 in No. 3.

The PROVINCIAL ASSISTANT, Eastern Province, to the DIRECTOR OF PUBLIC WORKS.

No. 14. Batticaloa, 8th January, 1878.

SIR,—I HAVE the honor to report that the flood on the night of the 6th instant over-topped the bund of Rukam tank, and has made a breach six chains wide. The breach occurs near the middle of the bund. When the messenger left there was still three feet of water going over spill-wall. I will report further after inspection.

I have, &c.,
J. A. ARNIEL.

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* *Vide* No. 6, page 9.

Enclosure No. 2 in No. 3.

The PROVINCIAL ASSISTANT, Eastern Province, to the DIRECTOR OF PUBLIC WORKS.

No. 13. Batticaloa, 9th January, 1878.

SIR,—I HAVE the honor to report for your information that there has been a most serious flood in this district during the last three days, and considerable damage has been done everywhere. The water in the lake yesterday was so high that all communication was stopped, except by boat; and until the water has subsided it will be impossible to estimate the full amount of damage done.

I am sorry to report that the small bund beyond the spill-wall of Pulukanawa tank has been breached, and allowed six feet of water to escape. The tank was full when the rain commenced on Saturday, the 5th instant, and rose rapidly until the gauge rod above the spill entirely disappeared, and kept on rising until within a foot of top of bund, when this small bund gave way, so relieving the tank.

I have set a party of men to effect temporary repairs, and to retain as much water in the tank for cultivation as possible. There still remains fourteen feet of water in the tank.

From the experience gained by this flood, I consider it will be necessary to make this bund stronger, and to provide a greater spill space, which, I think, can be done without very great trouble.

The water in Kudukamunai tank by last report was also within one foot of top of bund, the water running three feet over spill.

I am, &c.,
J. A. ARNEIL.

No. 4.

The Hon. the COLONIAL SECRETARY to the DIRECTOR OF PUBLIC WORKS.

No. 166. Colombo, 29th January, 1878.

SIR,—I AM directed to acknowledge the receipt of your letter No. 77 of the 15th instant, and to request you to furnish a further report of the damage done when the floods subside.

I have, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 5.

The DIRECTOR OF PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

No. 174. Colombo, 24th January, 1878.

SIR,—I HAVE the honor to forward a copy of a letter, No. 29 of the 14th instant, received from the Provincial Assistant, Batticaloa, for the information of Government.

Mr. Arneil has been authorized, in anticipation of the sanction of Government, to commence the work of rendering the road passable from the 65th to the 90th miles, and also to proceed with the repairs of the bund of Rokam tank. I will report upon the other works as soon as I have inspected the sites, for which purpose I leave Colombo to-day.

I have, &c.,
A. MURRAY,
for Director of Public Works.

Enclosure in No. 5.

The PROVINCIAL ASSISTANT, Eastern Province, to the DIRECTOR OF PUBLIC WORKS.

No. 29. Batticaloa, 14th January, 1878.

SIR,—I HAVE the honor to report for your information an account of the tremendous flood which occurred here upon the night of the 6th instant, which has been most disastrous, and almost requires to be seen to be believed.

The effect upon our works begins at Maha-oya, where the river rose to a height of 24 feet 8 inches, or a height of 11 feet over its banks, breaching the approaches to the Maha-oya bridge, and carrying away the long timber platform bridge in the approach and another smaller one, the water being within 5 feet 6 inches of the floor of the iron girder bridge, and rising 3 feet 8 inches over the lowest portion of the approaches. All the streams between Maha-oya and Kumburewella were swollen, passing over the road at every low

DAMAGES BY FLOODS.

EASTERN PROVINCE.

portion, and passing over two small platform bridges, and carrying them away. After passing Kumburewella for two miles, about half-a-mile of road the flood has washed over, carrying away one-half of the road. Between the 79th and 80th mile, which is the valley of the Tumban-aru, and one of the direct feeders of Rukam tank, which consists principally of a *long line of timber platform bridges*, the water passed over all these to a depth of two feet, carrying away and destroying, more or less, them all with the exception of four, and breaching the embankment of the road. Between this and what is called Rukam road bungalow at the 82½ mile, where the jungle road turns off to Rukam, one platform bridge has been destroyed, and a succession of breaches in the road, occurring almost at every culvert; the culvert remaining, but the road breached on one side or all round it.

From Rukam road bungalow to Karadian-aru rest-house, or from 82½ to 87½ miles, very little damage has been done. The water has passed over the road in one place, doing slight damage, and carrying away the handrail of a small platform bridge.

From Karadian-aru rest-house to the 88th mile the road has been breached in several places, the water having washed round and over the culverts.

From the 88th mile to the 92nd mile little or no damage has been done, but from the 92nd to 93½ mile the destruction has been terrible. The Pallavayal-aru bridge of two spans of thirty feet, and the Sengalady with nine spans of thirty feet still remain, but of the series of 10-feet arches which were built in the embankment, only three remain, and the embankment itself breached in the middle and at both ends.

On the North Coast road between Puliyantivu and Eraur three small bridges have been damaged, but are of very slight consequence.

I beg to annex a list in detail of the damage done upon the Badulla-Batticaloa road from the 63rd to the 94th mile.

The repair of the Sengaladi embankment, between the 92nd and 94th mile, will require some careful consideration, if it is to be constructed with brick arches as formerly, although I would recommend the piers now all being carried up straight and covered with railroon and buckled plates. The portion of the road, however, which commands immediate attention is from the 65th to the 90th mile. At the 90th mile the Pangadavelly road, which communicates with the head of the lake, is nearly completed, and to which spot rice can be sent by boat and there loaded, so that if the protion of the road from this up to the 65th mile can be put in order, traffic can at once be resumed. The rough estimate which I have prepared from going over the ground—the country being still very much under water—for the repair merely and putting the road into a passable state, similar to what it was before this flood, would be 25,000 rupees. I therefore request you will authorize me to proceed with this work as early as possible. At present I am organizing small parties and setting them to work; but to get the work done thoroughly it would be necessary to send me the assistance of at least two European officers, and if possible two divisions of pioneers, men accustomed to this style of work, and who could take up the Sengalady embankment afterwards. A rough estimate for converting all the broken arches—twenty-eight in all—into buckled plate bridges, 10-feet span in the clear, would be 30,000 rupees.

I have already reported that the flood over-topped the bund of Rukam tank and breached it. I have inspected the tank, and the only fortunate circumstance I can report is, that although the bund has been breached there has only been a loss of four feet of water, and there is still ten feet nine inches of water in the tank; and unless another flood comes, no more is likely to be lost. The water rose eight feet eight inches over spill, so topping the bund, carrying the timber from the tank on to the top of the bund, where some of it still lies. The breach is about 1,000 feet long, and to renew it with improved slopes will cost 10,000 rupees. I will commence repairs at once, and request you will sanction my doing so. The spill-wall which was recently strengthened has stood well, notwithstanding this enormous column of water passing over, and the outside of the spill has been washed, clearing away every stone and atom of vegetation; the water rose to the top of the half wall of the bungalow sitting-room, and about a foot and a-half in the guardian's house; four feet is the highest previous recorded flood ever passing over the spill. I was at this tank on the 30th ultimo, only seven days previously, and at that time the water was flowing two feet six inches over spill. I went over the bund with the guardian, and he at that time remarked that the bund was "*plenty high*."

I have already reported the damage at Pulukanawa tank. I have now further to report that Duvilane has been breached; considerable damage done to Chadaiyantalawa; and that the Kal Vahn or spill at Ambarai tank has been washed away.

The water in the Batticaloa lake rose to a height of six feet nine inches over ordinary level.

I am, &c.,
J. A. ARNEIL,
Provincial Assistant, Eastern Province.

MILEAGE.

93rd—94th.—Road breached 100 yards.

7 arch bridge, 10-feet arch—3 arches broken, 2 arches sunk	3 arch bridge, 10-feet arch, 2 broken
5 arch bridge, 10-feet arch—all broken	3 do. do. all broken
2 do. do. all broken	4 do. do. all broken

92nd - 93rd.—3 arch bridge, 10-feet arch—still remains good. Water over top of embankment here; large breach in embankment, 80 yards wide; 9 arch bridge, 10-feet arches—still remains good; 5 arch bridge, 10-feet arches—still remains good. 4 arch bridge, 10-feet arches—all broken. Large breach at end of embankment, 80 yards wide. Pullavayal-aru bridge, 2 spans, 30 feet each—in good order. Timber platform, portion of masonry gone. Timber platform in good order.

91st—92nd.—Road good.

90th—91st.—Road good.

89th—90th.—A culvert slightly damaged and road a little washed.

88th—89th.—Road breached.

87th—88th.—Road breached in several places, and road washed opposite rest-house.

82nd—83rd.—Rukam, six breaches in road; one culvert broken.

80th—81st.—One culvert gone and road broken. Water passed over road here two feet six inches; breach forty feet; road half gone for forty yards. Platform bridge, two corners of abutment gone; road broken, and half road washed away 200 yards.

79th—80th.—(1st bridge) repaired last year (good); road broken. (2nd bridge) lifted off abutments. (3rd bridge) lifted off abutments and floated away; one abutment broken. (4th bridge) double platform all right. (5th bridge) 4 spans, 15 feet each, two abutments and one pier given away, platform lifted off. (6th bridge) slight crack on masonry. (7th bridge) all right. Road between 7th and 8th bridge 100 yards breached. (8th bridge) one abutment slightly sunk. Road between 8th and 9th bridge six breaches, in all 150 yards. 8th bridge all right.

78th—79th.—1st bridge, two corners of abutments gone. 2nd bridge, corner of abutment given way.

77th—78th.—Half road washed away.

74th—75th.—Road breached.

73rd—74th.—Platform bridge, abutment washed away.

At 73rd.—Platform bridge, abutment washed away.

72nd—73rd.—Three bridges and a culvert.

68th—69th.—One small bridge, 15 feet span.

67th—68th.—One long timber platform bridge about 100 feet.

65th—66th.—One culvert and road broken.

J. A. ARNEIL.

No. 6.

The DIRECTOR OF PUBLIC WORKS to the Hon. the COLONIAL SECRETARY.

No. 417. Colombo, 21st February, 1878.

Damage done by Floods.—Batticaloa District.

SIR,—WITH reference to your letter No. 166 of the 29th ultimo, I have the honor further to report upon the damage done by the recent floods to the public works in the Batticaloa district.

The flood seems to have been an unusually high one, and there is no tradition of the water having risen to such a height before. At Batticaloa the lake rose to a height of seven feet above its ordinary level, submerging the floors and washing down and destroying houses that had stood for fifty years. The country around Batticaloa being flat, the floods extended for miles in every direction.

When the flood had risen to this height, the water burst through the barrier of sand between it and the sea, and the enormous rush of water out to sea scoured out the foundations of bridges and houses, and caused their destruction.

I found the damage done to the road from Badulla to Batticaloa to be as described by Mr. Arniel in his letter No. 29 of the 14th ultimo, forwarded to you with my letter No. 174 of the 24th ultimo, and I forward an estimate amounting to 89,740 rupees providing for the restoration of the bridges and making them permanent structures, and giving the additional waterway required.

Many of the bridges destroyed were constructed for economy' sake with dry rubble abutments and piers with wooden platforms, which, when over-topped by the flood were swept away. These should be re-placed with masonry abutments and roadways formed of iron girders and buckled plate with concrete roadways.

In the long Sengaladi embankment many of the brick arch viaducts were swept away. This arose owing to their foundations not having been sunk to a proper depth and to the flood having undermined them.

The large bridge in this embankment over the Mundini-aru river, of 10 spans of 30 feet each, stood the scour well, for in this case the foundations were sunk to a good depth, and the piles driven into the firm ground for their support; the large bridge of two spans

DAMAGES BY FLOODS.

EASTERN PROVINCE.

of 150 feet each over the Maha-oya has its foundation on brick wells sunk down to the rock, and has not been injured by the floods.

Steps were immediately taken by Mr. Arneil by means of temporary bridges, &c., to open the communication along the road, and I would beg to recommend that this estimate for 89,740 rupees be sanctioned at once to allow of the works being carried out before the next wet season sets in.

On the road from Batticaloa to Kalmunai and the south, the following works have been injured :—

Bridge at Dhoby's tank, 28th mile-post, abutment broken and wooden bridge swept away.
Bridge at Dhoby's tank, 32nd mile-post.
Do. do. 36th do.

The cost of the repair of these bridges will be 4,500 rupees, for which an estimate will be submitted.

Estimate sanctioned by Colonial Secretary's letter No. 231 of the 8th instant.

On this line of road the Kal-aru wall or causeway at the 20th mile has been damaged, and it will cost about 7,000 rupees to repair it. A vote was taken in the Supply Bill for this year for 10,000 rupees for a similar wall or causeway to be built across the Ondaatje-madam ferry, but the result of this flood shews it would not do to carry out this work, as it would only tend to increase the floods, being the outlet into the sea of the flood water from the Ondaatje-madam, the lower end of the Batticaloa lake, and I would therefore recommend that this vote be expended in repairing the Kal-aru wall, and providing a proper ferry boat at the Ondaatje-madam ferry at a cost, with approaches, of 3,000 rupees.

On the Karativu and Samanturai road three wooden platform bridges have been swept away, and the cost of their repair will be 5,000 rupees. As there is a vote taken in the Supply Bill for this year of 20,000 rupees for the extension and improvement of this road, I would recommend that this sum of 5,000 rupees for the repair of these bridges be charged to this vote.

Irrigation Works.

The following irrigation works have been injured by the floods :—

Rukam tank.—The water in the Rukam tank rose to a height of 8 feet 8 inches above the level of the spill-water and overtopped and breached the bund and swept away 750 feet of it. This fortunately happened at a spot where the surface of the ground where the bund was made was 9 feet 6 inches above the sill of the sluice; therefore, that depth of water has been saved, and which it is expected will be sufficient for this year's cultivation. The cause of the damage was the spill-water—although 800 feet long—not being long enough to allow of the escape of so unusual a flood. It is proposed to add 300 feet more to the spill-wall and to fill up the breach in the bund. These works are estimated to cost 10,000 rupees, for which an estimate will shortly be submitted; in anticipation of the sanction of which the work is now being carried out, so that it may be completed before the setting in of the next wet season.

Pulukunawa tank.—At this tank a small bund was overtopped and breached, shewing that the spill-water of this tank is not long enough. An additional natural spill, 100 feet in width, should be cut and the small bund restored. The cost of these works will be 5,000 rupees, for which an estimate will be submitted. There is a depth of twelve feet of water remaining in this tank available for irrigation.

Dedaim tank.—The bund of this tank was overtopped by the flood, and at the old breach completely swept away for a length of 350 feet, and the tank is now dry. The cause of this damage is owing to the insufficient length of spill-water for the escape of floods. The scouring of the bund shews the foundation on which it was formed to be of rock. Therefore the breach in the bund should be closed with a masonry wall, 150 feet of which will serve as a spill-water, thus doubling the present spill space. The cost of repairing this tank will be 30,000 rupees.

Chadagantalawa tank.—This tank remains full of water, but a slight scouring has taken place at the lower side of the spill-wall, which can be repaired at a cost of 500 rupees.

Ambarai tank.—A small portion of the masonry spill-wall has been washed away with a loss of two feet of water from the tank. The repair of this work will cost 500 rupees.

Kadukamunai tank.—Small slips at the back of the bund have taken place; the cost of this repair will be 500 rupees. The tank is full of water.

Allai tank, Trincomalee District.—Some leaks have appeared in the masonry spill-wall, and two leaks in the bund, that must be closed. The cost of these works will be 1,400 rupees.

To meet the amounts required for the repair of damage done to the roads the following votes will be required :—

			Rs.
Repair of Badulla-Batticaloa road	...	...	89,740
The Batticaloa and South Coast road	...	...	4,500
			Rs. 94,240

The other damages to roads and bridges might, as I have suggested, be met by votes already granted.

Irrigation Works.

	Rs.
Repair of Rukam tank	10,000
do. Pulukanawa tank	5,000
do. Divilane do.	30,000
do. Chadaiyantalawa do.	500
do. Ambarai do.	500
do. Kadukamunai do.	500
do. Allai	1,400
	Rs. 47,900

This sum of 47,900 rupees might either be charged to the irrigation vote taken for this year, or met by a special vote. With the exception of the restoration of the Divilane tank, it is necessary that all the other works be commenced at once for the preservation of the tanks, and I have authorized Mr. Arneil to undertake the works in anticipation of the sanction of the estimates, which will shortly be forwarded.

I have, &c.,
A. MURRAY,
for Director of Public Works.

No. 7.

The Hon. the COLONIAL SECRETARY to the DIRECTOR OF PUBLIC WORKS.

No. 394. Colombo, 8th March, 1878.

SIR,—WITH reference to your letter No. 117 of the 21st ultimo, I am directed to acquaint you that the Governor has sanctioned the estimate for 89,740 rupees, and an expenditure of 4,500 rupees (for which an estimate is due) for the Badulla-Batticaloa and Batticaloa South Coast roads, to be provided for in the Supplementary Supply Bill. The sum of 47,900 rupees for repairs to irrigation works is to be charged against the irrigation vote, and the proposed appropriation of that vote must be revised accordingly.

The suggestions made by you for the appropriation of the vote of 10,000 rupees for the Ondaatje-madam causeway, to the providing of a ferry boat at a cost of 3,000 rupees, and for the expenditure of the remaining 7,000 rupees on the Kal-aru wall, have been approved, and also the suggestion to charge the cost of repair of the bridges that have been swept away to the vote of 20,000 rupees for the Samanturai road.

I am, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 8.

RAINFALL RETURN FOR THE MONTH OF JANUARY, 1878.

[EXTRACT from the "Ceylon Government Gazette," No. 4,219, Friday, 22nd February, 1878.]

STATION.	Height above mean Sea Level	Total Rainfall during Month.	Greatest Quantity in any 24 hours.	Date on which greatest Quantity fell	No. of Days on which Rainfall was registered	Direction of Wind	REMARKS.
EASTERN PROVINCE.							
Chadaiyantalawa	...	36·95	15·00	6—7	16	N.	Mr Fisher
Irakkámam	...	24·48	3·75	6—7	20	N.	Do.
Divilane	...	42·40	12·10	6—7	19	N.	Do.
Sagamata	...	37·20	9·00	15—16	16	N.	Do.
Ambarai	..	44·80	11·00	6—7	17	N.	Do.
Kanthalai	...	11·10	2·75	6—7	11	NE.	The Guardian
Allai	.	19·55	5·50	20—21	9	N.	Do.
Rukam	...	Not received.					
Periyakulam	...	18·15	3·10	21—22	12	N.	The Guardian
Kalmunai	.	40·70	8·05	6—7	16	NE.	Mr. Fisher

XVII.

REPORT OF THE COMMISSIONERS

APPOINTED TO INQUIRE INTO.

THE SUBJECT OF

THE COLONIAL STORE.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

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COMMISSION.

Victoria, by the Grace of God of the United Kingdom of Gre
Queen, Defender of the Faith.

J. R. Longden,
Governor.

To the Honourable *William Henry Ravenscroft*; the Honourable *David Wilson*; *Allanson Bailey*, Esquire; *Ralph Tatham*, Esquire; *Alexander Murray*, Esquire, greeting:

Whereas We deem it expedient to cause inquiry and report to be made on the Colonial Store, in which the Railway Store is included, and to ascertain (1) whether, looking to the facilities that now exist for importing supplies at short and regular intervals, it is expedient to maintain the Colonial Store Department on its present footing, and if, in your opinion, the Colonial Store Department should be maintained; (2) whether the stocks kept in store might not be considerably reduced with the view of diminishing waste; (3) whether the system of accounts in the Store and the system on which Articles are drawn from it by other Public Departments might not be simplified with advantage; (4) whether any alteration is desirable in the mode in which tenders for timber, provisions and other local supplies are called for; and (5) generally to devise such measures as may seem calculated to promote the efficiency and the economy of this branch of the public service, and Whereas it has been shewn to Us that it is necessary to obtain evidence by a Commission of Enquiry to be appointed by Us under the provisions of the Ordinance No. 9 of 1872, entitled "An Ordinance to empower Commissioners appointed by the Governor to enquire into any matter referred to them for enquiry to hear evidence."

Now know ye, therefore, that We in confidence of your prudence, ability and fidelity, have appointed you, and by these presents do appoint you the Honourable *William Henry Ravenscroft*, the Honourable *David Wilson*, *Allanson Bailey*, Esquire, *Ralph Tatham*, Esquire, and *Alexander Murray*, Esquire, to carry on the enquiry aforesaid, and to exercise for that purpose the powers given to **Commissioners** by the said Ordinance in conformity with the provisions thereof.

Given at Colombo under the Public Seal of the Island, this Twenty-second day of October, One thousand Eight hundred and Seventy-seven.

By His Excellency's Command,
ARTHUR N. BIRCH,
Colonial Secretary.

COLONIAL STORE COMMISSION.

REPORT.

COLONIAL STORE COMMISSION.

Report.

THE Commissioners appointed by His Excellency the Governor to report upon the Colonial Store, having carefully considered the several points to which His Excellency directed their attention, beg leave to submit their report, and to forward minutes of their proceedings and of the evidence taken by them.

I.—STORE ESTABLISHMENT.

With the view of ascertaining whether it would be practicable and advisable for the Government to make any change in the mode of obtaining stores, the Commissioners have taken the evidence of members of the principal mercantile firms in Colombo. From that evidence it appears that the merchants would be able and willing to supply all articles required by the Government, that the best quality would be guaranteed, and that they would either supply the goods on commission or tender for them at fixed prices. The general opinion amongst the witnesses, however, seems to be that a merchant could not afford to keep a large stock of stores for the use of Government, but that the most satisfactory plan for him would be to tender for and supply from time to time stipulated quantities of each description of stores.

Such a system would not be generally advantageous to the Government. No relief would be afforded to the Colonial Store Establishment; it might, on the contrary, possibly require augmentation, as the labour of making contracts, &c., now performed by the Crown Agents, would devolve on the local Government. It would be necessary either to cause all goods to be inspected, as at present, by Government inspectors before being despatched from England, or to make a thorough examination of them, and to compare them with samples immediately on receipt. The inspection in either case would be at the expense of Government, and if the examination were made locally, considerable delay would be occasioned, as each package would have to be opened and verified; and many articles would become liable to deterioration from exposure to the air. Moreover, in the case of certain stores, special knowledge would be required, to determine whether they are of the description and quality required by the contract. In view of these circumstances the Commissioners do not recommend the adoption of this mode of procuring supplies.

But should any of the local merchants be willing to enter into contracts for the supply of such articles as are required for the public service, delivery to be made on requisitions in large or small quantities direct by the contractor to the various departments, it would be desirable, the Commissioners think, to accept the services of such contractors, provided that regulations for inspection and comparison with sample patterns can be devised, sufficient to ensure a quality of stores suitable in all respects for the requirements of Government, and equal to that of the supplies hitherto procured through the intervention of the Crown Agents, which are said to be generally satisfactory—see evidence of the Director of Public Works and others. It is indeed universally admitted that the stores at present used by Government are, almost without exception, much superior in quality to articles of a similar description procurable in the local market. The reason of this is obvious. The market is chiefly supplied to meet the requirements of native trade, and in that trade articles of the best quality are not in demand. A merchant, therefore, who might contract to supply Government, would have to import articles of special quality, and for this reason, as well as to cover his risk, an increase in price might be anticipated; but, taking it for granted that his prices would be higher than those now paid, it is probable that, in an economic point of view, the result of employing a local contractor would be satisfactory to the Government, as direct loss from deterioration, robbery, and locking up of capital would be obviated, and a great saving of labour effected.

It may be here remarked that it has been stated by one of the merchants that in his opinion the Government pays the highest prices for the goods it purchases. This opinion seemed to be shared by others, and comparisons were made by some of the witnesses between the prices invoiced by the Crown Agents and those appearing in the price lists

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of manufacturers as well as in merchants' invoices. The comparisons were not altogether satisfactory, as they depended on observations alone; no other test of quality could be applied. A further difficulty arose from the uncertainty as to the mode adopted by the Crown Agents in dealing with merchants and manufacturers. In some of their invoices a commission is charged; in a few instances discounts are given; while in others, though the orders are large, discount is not allowed. No uniform system seems to be in force; and as it would be satisfactory to have some information on the point, the Commissioners subject that it should be desirable to request an explanation from the Crown Agents.

In order to ascertain whether not merchant would undertake to keep a store of, and supply Government with, such articles as have hitherto been procured through the Colonial Store Department, it will be necessary to call for tenders for the supply by contract of those articles; but the Commissioners are of opinion that any change which may be determined on in the mode of obtaining stores should be made gradually; and they therefore recommend that the Government should resort to the local market in the first instance for such articles only as it is known can be continually procured of good quality, viz.: tar, cement, asphalt, iron, and chain cables for the supply of these articles, to be delivered in warehouse, allowance being made in the agreement with regard to quality and any loss that may be incurred. Should it prove that the market can furnish other articles required by Government, the Commission would recommend that from time to time arrangements be made for procuring such articles in similar terms. This will probably induce merchants to import, on speculation, if not, at all events, the articles used by Government; and the Commissioners consider that so far as the merchants show themselves willing to meet the views of Government locally, so far the Government should render all reasonable encouragement to the local trade. An excellent method of testing the capabilities of the local market would be to invite offers for the supply of the items mentioned, and other similar materials required by the Public Works Department during the ensuing year. The annual supply allowed to that Department for this is Rs. 60,000, and the average expenditure incurred for the supplies of the other departments mentioned is Rs. 100,000.

As regards articles which the merchants are unable or unwilling to supply on the above terms, the Government will, the Commissioners think, be acting in the interests of the public by continuing to order them through the Crown Agents.

If the experiment suggested be found not to prove to be satisfactory, the Colonial Store Establishment might be entirely abolished, but, in spite of present arrangements it would not be advisable to interfere with the existing establishment.

2—STOCKS.

The stock kept in store have of late years been considerably reduced. In 1873 the Colonial Storekeeper was ordered to have on hand not more than sufficient for one year's consumption; in April, 1877, he was directed to keep a six months' supply only; and these orders have, so far as practicable, been carried out. Further reduction, the Commissioners think, is not desirable. As a rule, supplies equal to six months' consumption should be kept, though if a to be mentioned cheaper mode be adopted, a smaller stock of articles of well-known or established use and pattern would suffice. The cost of cipher telegrams would not be great, and would be compensated by saving from waste and deterioration.

Complaints have been made that the stock in store of articles in constant demand frequently runs short, and that much inconvenience is the result. It is also the case that there are in store many articles which are never asked for. This is caused partly by the inaccuracy of the departmental indents, upon which the Colonial Storekeeper's demands on the Crown Agents are framed. The question of indents is one to which the Commission has given much attention, and will be fully dealt with under the last head of this report. Another probable cause of deficiency of stock is the unnecessary delay which, as the Colonial Storekeeper's evidence shows, exists in the execution of indents. The Commissioners fail to see why ordinary stores, and especially implements in general use, cannot be purchased and despatched by the Crown Agents quite as expeditiously as by any other agency. Merchants appear generally to agree that goods ordered by telegram can be procured in two months; and making due allowance for the transmission of orders by post, the Commissioners are of opinion that from three to four months should ordinarily be the time between date of indent and receipt of stores in the Colony. In the case of articles urgently required, the telegraph should, as has been already suggested, be employed.

A list of surplus stores furnished by the Colonial Storekeeper was forwarded by the Commission to the Director of Public Works, who was asked whether he could use any of the articles enumerated. The Director, in specifying what the Department would consume in the next two years, stated that he was unaware that these surplus stocks existed; and that until the excess is worked off Provincial Assistants would be instructed to indent for articles appearing on the list, when such articles are similar or nearly similar in description, size, or quality to their actual wants. There will still remain on the Colonial Storekeeper's hands a quantity of stores that will probably never be required, and the Commissioners recommend that these should be sold, though it be at a loss, to make room for more useful supplies.

2.—ACCOUNTS, ETC.

The Commissioners have examined the books kept by the Department both at the Colonial and Railway Stores. At the latter the system of accounting for stores appears to be good, and is capable of being extended to a similar establishment of any size. It is, in fact, as stated in evidence, the system followed on two of the largest railways in England. The books are well kept, and were up to date when examined by the Commission. The goods in store were well arranged, with the exception of the railway tickets, which were found lying about in a manner that reflected but little credit on the Railway Storekeeper.

The question of the mode of issue of railway stores and custody of railway tickets having been specially referred to this Commission by Colonial Secretary's letter of 25th January, 1878, the Commissioners enquired into the matter, and reported that they considered it desirable that the present system in respect of the issue of railway stores should be adhered to, and that as the Railway Store is a branch of the General Colonial Store, the Railway Storekeeper should be subordinate to the Colonial Storekeeper.

"With regard to the custody of railway tickets, the Commission recommended that the suggestions of the Auditor-General, a copy of which they obtained, and with which they entirely agree, should be carried out.

"It had been proposed to hand over the tickets to the Treasurer, to be issued by him to the Traffic Department as required. The Auditor-General pointed out that nothing would thus be gained in the way of improved security against fraud; and that, with the numerous checks which already exist, especially in the examination of tickets after any misappropriation and misuse of them, fraud would take place without speedy discovery. The Auditor-General therefore recommended that the tickets should be placed in the custody of the Traffic Manager, to be by him issued to the station-masters as required, and that on issuing the tickets one package should be made of the Railway Tickets and the other of the Cloth; this means it would be easy to verify the remains. The subsequent packets being taken to contain what they represent, it would be necessary to point the broken packages only. The Auditor-General also suggested that for the sake of further safety the bulk of the tickets might be kept securely locked up, the key being in the custody of the Head of the Department, and the clerk who makes the detail issue having in his possession a limited supply only, that could at any moment be verified by the Head of the Department of the Audit Office. The following description of the mode adopted in the issue and examination of tickets in the Railway Department shows that any attempt at fraud would, if the rules are strictly observed, soon be brought to light:—

"Station-masters forward their requisitions for tickets through the Traffic Manager to the Railway Storekeeper. In these requisitions are inserted the number of tickets of each class and station required and the commencing and closing numbers thereof. On the receipt of the requisition by the Storekeeper, he forwards direct to the station-masters the required tickets with a way-bill, which latter is returned to him receipted.

"The station-masters are instructed on receipt of the tickets to satisfy themselves at once as to the correctness of the tickets in every respect, and to lose no time in reporting any discrepancy or error in regard to them.

"Tickets, when required for issue, are placed in the respective tubes set apart for each class and station, in their numerical order, and when issued are pre-dated to prevent their being used again; and as an additional precaution, they are nipped at one edge by the guard as the passengers take their seats.

"Immediately after the departure of each train the booking-clerk enters in the train-book the number of tickets of each class and station sold by him, showing also the commencing and closing numbers of such tickets and their money value. The cash received is then and there checked with the amount appearing in the train-book. At the close of the day's work station-masters prepare the ticket-slip for the day, in which is shown the number of tickets of each class and station sold, as also their consecutive numbers. This is forwarded to Colombo by the first passenger train, together with all tickets collected at the station, properly arranged in their station order, class, and number. On receipt of these tickets at Colombo they are checked in the Railway Audit Office with the ticket-slips of the respective stations from which the tickets were issued. Each ticket is carefully inspected, and any discrepancy, such as break in number, wrong date, &c., is immediately noted and satisfactory explanation demanded.

"At the close of each week the station-masters forward a summary of passenger traffic, giving in it all details in respect of the tickets sold and amount recovered; this is also examined at the Railway Audit Office.

"Thus it will be seen, that the tickets received by station-masters are examined and handed to booking-clerks, who before selling them date them; that to prevent tickets being used a second time they are nipped by the guards on the passengers taking their seats; and that they do not come back to the same clerk who sold them, but are distributed to all the stations whence they are collected, and forwarded direct to the Railway Audit Office, where they are checked. It is therefore clear that there is no facility for committing any irregularity, which would require collusion between station-masters, their clerks, the guards and the Railway Audit clerks; and that such collusion is improbable in view of the great risk of speedy detection."

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The only change contemplated by the system proposed by the Auditor-General and supported by the Commission is, that the tickets will be in the custody of the Traffic Manager instead of the Railway Storekeeper; and the Commissioners have no doubt that, if the recommendations above referred to are carried out, there will be sufficient security against misappropriation, and proper provision for the safe custody of the tickets.

In the Colonial Store proper, the system of accounts seems, as far as the Commissioners were able to judge from the books which they examined (see appendix A for list of books), and from information given by the Colonial Storekeeper, to have been originally well conceived; but it does not appear to have been thoroughly carried out, and some of the books are in arrear. The Commissioners also ascertained in the course of their enquiries that payments for stores issued to Departments are needlessly delayed; that articles issued are not written off the Store books when they are issued, but only when paid for; and that much time and labour are unnecessarily spent in the preparation of vouchers in support of payments made to the Colonial Storekeeper. The Commissioners submitted for the approval of Government a new form combining both requisition and voucher; and recommended that prompt payment should be insisted on, and that as soon as the issues on a requisition are completed the articles issued should be struck off the Colonial Storekeeper's books and returns. A copy of the letter addressed to the Colonial Secretary will be found in appendix B. They would now add the recommendation that all stores received should be taken on the books at once, from the invoices, if the packages should appear to be in good order, and, if otherwise, after examination of contents. At present there is at times so much delay that a portion of a shipment received from England has been issued before being brought on returns.

The books kept in the Colonial Store may be divided into two sets: those kept by the Colonial Storekeeper, which account for the money value of the stores, and all money transactions; and those kept by the Assistant Colonial Storekeeper, which relate to the actual receipt and issue of stores. The Commissioners are of opinion that upon the introduction of the new system of requisition and voucher referred to in the preceding paragraph, certain books at present kept may be discontinued, and some saving of labour effected.

Book No. 1, *Draft Book.*—All payments by the Colonial Storekeeper are made from the wage allowed to him in the Supply Bill. In this book he credits himself with all the payments made to him; it appears to be useful, and should be kept.

No. 2 is a *Ledger*, showing the expenditure under each head of service, and is useful.

No. 3 appears to be a subsidiary book, from which No. 4, the Cash Entry Book, is posted.

No. 4, *Cash Entry Book.*—All moneys received by the Colonial Storekeeper in payment of stores issued have to be paid into the Treasury. This book is in point of fact a Cash Book showing such transactions. It is, in the opinion of the Commissioners, necessary.

Nos. 5 & 6.—These appear under existing arrangements to be necessary, but under the new system of drawing and accounting for stores, may be either done away with or much simplified. This however can only be proved by experience, and must depend upon clerks found to be necessary by the Audit Office. At present the books are required in order to prepare returns by means of which the Auditor-General checks sales of stamps. The other books kept by the Colonial Storekeeper are subsidiary, and the Commissioners are not prepared to say that they can be dispensed with.

The books kept by the Assistant Colonial Storekeeper the Commissioners found to be considerably in arrear. It appears to be the custom to post up the ledger of receipts and issues at the end of each quarter; and then only with the total receipts and issues of the quarter. The Commissioners are of opinion that it is most essential that all receipts and issues should be entered as they occur, and that it should be possible to ascertain at short notice the remains in store. It is desirable that the person who keeps the Ledger should have nothing to do with the actual issue or receipt of stores. The issuing clerk should, when the issue is completed, initial the requisition, which should then be handed to the Ledger-keeper to be entered in the Ledger, and finally disposed of as may be necessary. The Ledger clerk might also be charged with the preparation of the quarterly returns, and thus relieve the issuing clerk as much as possible of all desk-work. It is probable that more than the present number of issuing clerks will be required, if the alterations in the Store buildings hereafter suggested are carried out; and that each issuing clerk will be required to keep a book showing receipts and issues of stores in his branch of the Store.

The *Order Book* No. 3, *Railway Warrant Book* No. 4, and *Petty Cash Book* are necessary. The Commissioners think that the other books kept by the Assistant Colonial Storekeeper will become unnecessary if the triplicate requisitions are sent by the Colonial Secretary to the Colonial Store, instead of being retained in the Colonial Secretary's Office, as recommended in the letter marked appendix B.

4.—TIMBER, ETC.

The Commissioners have taken evidence on the question of the supply of timber both from persons interested in the trade and from others having a knowledge of the subject, as well as from officers of the Public Works Department. They have also inspected the stock in hand, and have made all possible enquiries.

They find that the present arrangements are by no means satisfactory. The timber is only issued in logs, and there is often considerable difficulty in obtaining from the store timber of the particular size and description required. Some of the timber which has been for a long time on hand, has, as the Commissioners found on inspection, deteriorated considerably from exposure.

The Commissioners are of opinion that if converted timber could be issued to Departments, much inconvenience and loss would be obviated. It appears that formerly a sawing establishment for the conversion of timber existed in the Colonial Store Department, which, upon the discovery of certain frauds, was discontinued. The present system of issuing by the log was then resorted to. For many reasons the Commissioners hesitate to recommend the resuscitation of this sawing establishment; one, and by no means the least urgent reason, being that converted timber is not easily procurable in the market of all sizes and in any quantity. From the evidence it would appear that there would be no difficulty in obtaining a contract for the supply of all timber, whether converted or unconverted, that may be required by Government; and if proper precautions were taken in the preparation of the contract, especially with regard to the quantity that should be kept in hand by the contractor, the Commissioners believe that a real saving would be effected, as although the first cost of the timber would be greater than that hitherto paid, yet there would be a clear saving in the cost of establishment and transport, and there would be no loss from the necessity of drawing logs of unsuitable sizes, or from the causes referred to in connection with the question of the supply of ordinary stores.

The Commissioners would therefore strongly recommend that tenders be invited for a contract to supply timber, both converted and unconverted, to be delivered by the contractor to the indenting departments in such quantities and at such times as they may require it. The contract to last for one, two, or three years, as may be deemed advisable. The duty of entering into the contract should devolve on the Colonial Storekeeper, to whom all complaints on the part of the contractor or the indenting Department should be referred, due provision being made in the contract for the settlement of any difficulty which may arise.

The above suggestions refer to imported timber only. With regard to the supply of Island-grown timber at out-stations, the Commissioners would recommend the extension of the system which has been found to answer so satisfactorily at Galle, viz., that timber depots for the supply of departments should be established at the principal provincial towns.

With regard to the mode in which tenders for the supply of the small quantity of provisions and other local supplies required by the Colonial Store Department are called for, the Commissioners see no reason to suggest any alteration.

2.—GENERAL SUGGESTIONS. (a)—STORE BUILDINGS.

The Commission visited the Colonial Store and the Railway Store, which is a branch of the former, in charge of a storekeeper, who takes his orders from the Colonial Storekeeper. With regard to the former, it was found that storage arrangements are most defective. The building, lately the Officers' Quarters of the Ceylon Little Regiment, is divided into seventy-two small rooms, on a ground and upper floor, surrounded by verandahs. As a consequence, the arrangement of the stores is so bad that it is a work of exceeding difficulty and much time to take stock, and of necessity articles that fall under one head of stores are distributed in several different rooms, and the clerk in charge of the detail issue of any particular description of stores has either to be continually moving from one room to another, or he must trust to those working under him. An estimate amounting to Rs. 3,200 has been prepared by the Public Works Department for the conversion of the existing 72 rooms into 8, and putting in two lifts. These alterations would be of great use, as the issuer would then have under his eye all the stores in his charge, and thus their wastage would to some extent at least be prevented; more space would be obtained, and it would be possible, as it certainly is not at present, to arrange the various kinds of stores in order. It will be necessary, however, if these alterations are carried out, to provide secure fastenings to all doors and windows; and the Commissioners would suggest that all the doors but one in each set of rooms communicating with one another should be secured from the inside, and the key of the one door that can be locked from the outside be in the custody of a responsible officer of the Department.

The alterations proposed, although supplying some of the requirements that the present store lacks, will not be any means render it as suitable a building for the purpose to which it is devoted as a little further outlay would make it. A sum of about Rs. 10,000, the Commissioners are assured by the Provincial Assistant, Western Province, would be sufficient to provide for all that is necessary to make a good store. The Commissioners, therefore, strongly recommend that this expenditure be incurred, and that in the altered building a sample room be introduced, in which the Colonial Storekeeper should keep samples, arranged in accordance with the headings in the price list, of all articles in store.

The Commissioners consider that it is a matter of the first importance to have proper store accommodation, without which it would be useless to expect any increased efficiency in the Department. If a proper store is provided, there will be less excuse for the delays in making issues, which have been complained of, and which are often very embarrassing to indenting departments.

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The Railway Store is a suitable building and sufficiently capacious.

The suggestion of the Chief Resident Engineer that there should be an enclosed yard for the heavy stores which are left outside, is a good one, and might be adopted with advantage; and the Commissioners agree with the Chief Engineer in thinking that there should be a clerk at the Railway road entrance to check the receipt and delivery of stores at the gate there.

(b)—INDENTS.

The question of stock has been already discussed, and the Commissioners have stated their opinion, that a supply equal to six months' consumption is necessary. It is however difficult to determine what constitutes a six months' supply.

The Public Works Department is the Department which draws most largely from the Store, and the custom has been for that Department to draw up in July of each year an indent for the requirements of the following year. These indents have hitherto been merely approximate estimates, and those of other departments are, it is believed, not more accurate. The Colonial Storekeeper on receipt of the indents examines, as best he can, the stock on hand, and prepares general indents for transmission to the Crown Agents. Here again a difficulty arises, for, owing to the bad arrangement of the Store buildings, and other causes capable, the Commissioners hope, of remedy, the actual stock is unknown except at the end of each quarter; and then only the remains, as shown by quarterly returns, but unverified by stock taking, are ascertainable.

The Commissioners are of opinion that there are two methods by which a more reliable estimate of requirements, especially of the Public Works Department, might be obtained.

First, by calling upon the subordinate officers of the Public Works Department when furnishing estimates for works, to calculate the actual quantities of each description of article required. The Director would then frame his indent on the information thus adduced, and forward it to the Colonial Storekeeper, who after having first carefully examined the stock on hand, would prepare the usual indent on the Crown Agents, and state the periods of the ensuing year when deliveries should be made. After the passing of the Supply Bill the Director of Public Works should amend his estimate, if necessary, and the Colonial Storekeeper's requisition could be modified accordingly. A correct indent would undoubtedly be arrived at by this method, but the Commissioners are of opinion that the amount of labour necessary for the preparation of the detailed statements would be too great to admit of its adoption.

Secondly, by the appointment of a Board of three officers, of which the Director of Public Works and the Colonial Storekeeper should be members, to assemble early in July for the purpose of receiving estimates from departments and preparing final indents. All departments requiring stores should be instructed to send in an approved form a statement showing the consumption, for each half-year separately, of the past year, together with an approximate estimate of the requirements for the ensuing year, and explanations of any demands in excess of the consumption of the previous year. The Colonial Storekeeper should furnish the Board with a statement of stock on hand on 30th June as shown by his books; and the Board should then decide what supplies should be ordered. The Commissioners think that it will be possible to obtain sufficiently accurate indents by this method, a trial of which they therefore recommend. The Board should bring to the notice of Government any accumulation of stock, and make its recommendations for its disposal. The same Board might also be instructed to examine the surplus stores such as are referred to in the second section of this report, and state how they can be dealt with to the best advantage.

The Commissioners beg leave to add that, however carefully indents may be prepared, stock will occasionally run short, unless the several departments drawing stores and the Colonial Storekeeper work in accord with one another. When an indenting department finds that it is likely to require any articles in considerably larger quantities than those appearing in its estimate, the Department should inform the Colonial Storekeeper of the fact, and in like manner when the Colonial Storekeeper finds that the stock of any stores that are much in use is small, he should communicate with the departments concerned, with the view of ascertaining whether further supplies should be ordered.

(c)—LOCAL PURCHASES.

The Commissioners are of opinion that, except as recommended under the first head of this report, purchases in the local market should be, as far as possible, avoided, and there will, probably, be very little necessity for such purchases if the recommendations in respect of the preparation of indents and the keeping up of stock are carried out. If, however, it should become necessary to resort to the local market at any time, the Commissioners think that the Colonial Storekeeper is the proper person to make the purchases, except in the case of articles for use at outstations, such as bricks, timber, lime, &c., which are procurable on the spot.

The Colonial Storekeeper should be instructed to inform departments, in all cases and without delay, when articles applied for are not in store, and to state at the same time when the next supply is expected. If requested by the indenting Department to purchase the Colonial Storekeeper should do so with the utmost possible expedition; and in the case of all articles which can conveniently be tested, such as tools, iron, steel, &c., samples should be sent to the Department to be tested before the purchase is concluded.

CONCLUSION.

The Commissioners beg leave now to recapitulate their suggestions; but before proceeding to do so, they would remark that in considering the question of the Colonial Store Establishment it is necessary to remember, that even if the Government is able to make arrangements to procure its supplies locally, there are still many duties now performed by the Colonial Store which must be provided for. It will be sufficient to mention the distribution to every Department throughout the Island of stores not procurable on the spot, and of stationery, printed forms, &c., the providing of furniture for public offices, and the duty of entering into contracts.

The recommendations of the Commissioners may be thus summed up:—

1.—That the present Colonial Store Establishment should not be reduced until it is satisfactorily ascertained whether local merchants will contract to provide the Government with supplies in the same manner as the Colonial Store now does, and of a quality equal to that of the supplies procured through the Crown Agents; that in order to determine whether such a change can be effected, the local market should at first be resorted to for such articles as it is known can be obtained of good quality, and that the experiment should be gradually extended as opportunities offer; that tenders be invited for the supply during next year of tools, iron, and other similar articles required by the Public Works Department; and that the Crown Agents should, as great doubts have been expressed whether they obtain the best terms for the Government, be asked to explain their mode of dealing with merchants and manufacturers, and the arrangements made by them with regard to discounts and commissions.

2.—That, as a rule, a six months' stock of supplies should be kept; that in order to prevent supplies running short the Government should adopt a cipher code, and order by telegram any goods urgently required; that the Crown Agents should be more expeditious in the execution of the indents sent to them; and that the surplus stores for which there is never likely to be any demand be sold or otherwise disposed of, as may be recommended by a Board to be appointed for the examination of indents.

3.—That tenders be invited for the supply by contract of the imported timber, both converted and unconverted, required by Government; the contract to last for a certain number of years, the timber to be delivered in such quantities and at such times and places as may be required; and that for Island-grown timber, depôts be established at the principal provincial towns.

The Commissioners would now add, that it would be advisable to issue instructions to departments to use *converted* timber as much as possible. The issuing of timber in logs, unless a strict account is rendered of what such timber produces, opens a door to possible abuse, which might be avoided by drawing converted timber only, whenever such a course is practicable.

4.—That a sum of 10,000 rupees be expended in making the present Store building thoroughly suitable for the purpose of a store; that at the Railway store there should be an enclosed yard for the heavy goods left outside, and that there should be a clerk at the Darley road entrance to check the receipt and delivery of stores at the gate there.

5.—That steps be taken to secure accurate indents from departments, and that indenting departments and the Colonial Storekeeper should work together, more especially with the view of preventing supplies from running short.

6.—That local purchases should always, except in cases specified, be made by the Colonial Storekeeper; that such purchases should be made without delay, and subject to test when possible.

The Commissioners believe that their recommendations in respect of the mode of drawing and accounting for stores and the custody of railway tickets have already been carried out.

In conclusion, the Commissioners venture to express a hope that the adoption of their suggestions will tend to prevent loss and waste, and to promote the efficiency of the Colonial Store Department.

W. H. RAVENSCROFT, Chairman.
D. WILSON.
ALLANSON BAILEY.
RALPH TATHAM.
A. MURRAY.

Legislative Council Chamber,
Colombo, 23rd July, 1878.

I have signed the Report, with which I generally agree; but I consider that it is absolutely essential for the interests of the Colony, after this enquiry, that the fullest and most explicit information should be given by the Crown Agents whether they are in a position to avail themselves, for the good of the Colony, of all trade discounts, return commissions, or other perquisites, in the same manner as ordinary traders; and in what manner they have disposed of any such commissions, &c., which they may have received.

D. WILSON.

PROCEEDINGS.

24th October, 1877.

PRESENT:

Hon'ble D. WILSON, ALLANSON BAILEY, Esq., | RALPH TATHAM, Esq., ALEXANDER MURRAY, Esq.

THE HON'BLE W. H. RAVENSCROFT IN THE CHAIR.

His Excellency the Governor's Commission of appointment was read. Mr. Bailey was requested to act as Secretary.

The Colonial Storekeeper was present by request of the Chairman, and a list of written questions was handed to him, which he undertook to answer in writing as soon as possible.

The Commission then adjourned, after agreeing to meet at the Colonial Store on Friday, the 26th instant, at 7 A.M.

26th October, 1877.

The Commissioners met at the Colonial Store on the 26th October, went over the buildings, examined the books, &c. They also visited on a subsequent day the Railway Store.

REPLIES sent in by Captain W. J. GORMAN, Colonial Storekeeper, to certain written Questions submitted by the Commission.

Question 1.—Give a list of books kept by the Colonial Storekeeper.

See appendix A, for list.

2—What regulations and instructions are there for the guidance of the Storekeeper?

There are no regulations or instructions. The regulations consist of decisions and authorities of Government from time to time conveyed by letter from Colonial Secretary.

3.—What purchases are made locally?

Nothing is ever purchased locally if indent is sent in by the department requiring sufficiently early to admit of the article being procured from England or other source of supply.

It has been the practice for all departments, before close of the first half of each year, to prepare indent specifying what stores are required to complete current year, and for service of ensuing year.

These quantities are shewn separately, and the Colonial Storekeeper, after inspection of stock in store, prepares an indent on Crown Agents for what appears to be required to raise stock sufficiently.

These indents on Crown Agents shew what articles are required urgently, and generally state the dates by which the several articles should be shipped, and whether viâ Cape or Suez Canal.

If this rule is strictly followed necessity for local purchases, which I consider objectionable for various reasons, would be almost rendered unnecessary.

The chief articles purchased locally are timber—generally by contract—cotton cloth for hospitals, coal tar, sundry small stores and occasionally cement.

3 a.—What mode is pursued with regard to local purchases?

To meet the known wants of departments generally for stores of local manufacture, such as mats, brooms, furniture, casks, &c., &c., advertisments are issued annually calling for tenders.

Such tenders as may be approved by Government are accepted, and contracts entered into, security being furnished by contractor, and various penalties specified in the bond for partial or total failure.

For small stores orders are sent to various dealers.

For articles not sufficient in quantity and value to induce competition, the local traders are applied to, and they generally supply at an abatement of about 10 to 12 per cent. on shop prices.

For articles required in quantity, the want of which has not been notified in advance by indent or otherwise, a circular is sent to each merchant and trader describing the articles required, and fixing date for receipt of samples and memorandum of prices. For unforeseen local purchases no better system can be devised.

3 *b*.—When are they, *i. e.*, local purchases, paid for and when brought on books?

As soon as they are delivered into store a voucher is prepared according to the prescribed form—see appendix marked A 1., and on the Assistant Colonial Storekeeper certifying that he has received articles into store, and that they will appear brought on his Return for a certain quarter or period, a draft is drawn on Treasurer for the amount.

4.—Are stores locally purchased invariably paid for on receipt, or are any stores taken on before they are paid for?

See answer to last clause of question No. 3. Nothing can be paid for till the Assistant Colonial Storekeeper has signed the prescribed certificates. Then no time is lost in paying.

5.—What is the mode of issues to public departments?

All issues, with but one department excepted, are made on sanctioned requisitions. Occasionally a requisition may include some article which is not in store. This is referred to in my answer to question 3; it is procured or ordered to be made. If not procurable, it is erased from requisition, and indenting department or officer informed.

When the requisition is fully complied with or closed, a voucher is prepared for the amount of value of articles issued, which is forwarded to the department or officer drawing the stores.

The Public Works Department, the department dealing most extensively with the Colonial Store, is an exception to the above stated procedure.

The wants of the Public Works Department are complied with on temporary receipts, which state the estimate on account of which the demand is made. If sanction of the estimate has been notified to Colonial Storekeeper by Colonial Secretary, the issue proceeds.

At end of each month the Public Works Department prepares sets of general requisitions covering the whole of the issues on temporary receipts, with some perhaps trifling exceptions; these requisitions have to be carefully examined in stage, and then returned to Public Works Department with memorandum of omissions discovered.

The Public Works Department then returns them to Colonial Storekeeper with drafts or orders on Treasurer, at same time accounting for omissions, which, as a rule, are included in the requisition for the following month.

6.—Is payment made at once for all stores issued by you? And how are payments made? Can you suggest any simpler and quicker mode than the present for settling with departments?

No. Payments are, in my opinion, unnecessarily deferred.

Payment is received by draft on Treasurer, cheque on Bank, and occasionally in cash. The receipt of cash at Store, so far from Bank and Treasury, has led me to ask departments to pay into Bank to credit of Colonial Store, and forward the Treasurer's receipt; by this means the charge of large sums of cash is avoided.

The delay in settling arises from various causes: the chief is that stores are drawn I believe before estimates are sanctioned. I recently furnished a return to Auditor-General of sums due to Colonial Store by various departments, for which the Store Department had furnished vouchers in due form. Of these sums some remain unpaid since January.

The Store Department is required to send in a voucher; this, as far as the Store is concerned, is unnecessary. All that the Store requires is an authorised requisition and the cash. The Store Department, as a rule, furnishes vouchers within a month from date of issue.

The following is extract from letter addressed by me to Government some time ago:—

"The third, and I believe chief, cause of error and loss is the existing practice of not striking off the store books and returns any article that has been issued till the value has been paid."

"Why this system was ever adopted, I know not; it is useless for any good purpose, and I feel sure has caused error and loss."

"I beg to urge most strongly that this system be abolished from 30th June next, and that immediately issues on a requisition are completed, the articles issued be struck off returns."

"To give effect to this recommendation all requisitions should be sent to Store in duplicate."

"All requisitions are now prepared in duplicate, but one copy is retained in the Colonial Secretary's Office. It will not add to work of other departments, if both are sent to Store."

"Immediately on receipt by Assistant Colonial Storekeeper, original and duplicate requisitions will be numbered in same manner as cheques and counterfoil, duplicate and original bearing same number."

"When complied with, the original will be passed on to accompany Store return, and duplicate sent to account branch for preparation of voucher and recovery of value."

I would now add to this recommendation, that on the duplicate being forwarded to Account branch the value of articles be entered, and that it be then sent to the department drawing the stores for payment, that department preparing its own vouchers, which should be sent to Colonial Storekeeper with requition and value of issues.

This would relieve the Store Department of preparation of vouchers, which are not required by store, and impose that work on the departments actually requiring the voucher.

7.—State cost of Colonial Store establishment and wages, &c., paid for 1876.

The total cost of establishment and wages paid was, Fixed and Provisional establishment, 25,141 rupees and 25 cents; wages, including carpenters, coolies, watchers, &c., &c., 4,742 rupees and 58 cents; total, 29,883 rupees and 83 cents.

8.—Furnish a return of sales and value thereof to private individuals for past five years, shewing sales for each year separately.

The total value of such sales for past five years is Rs. 12,705·66.

	Rs.	Cts.		Rs.	Cts.
1872	2,349	15	1875	2,465	28
1873	3,399	09	1876	1,441	09
1874	3,141	04			

9.—State value of stores issued for each year for past five years.

	Rs.		Rs
In 1872	324,937	In 1875	396,210
1873	329,214	1876	452,931
1874	395,129		

10.—Invoices of stores received for last year.

File of invoices for 1876 herewith.

11.—Furnish a statement of amounts paid for stores by each department for last year.

The total amount was 452,931 rupees and 57 cents. For particulars see appendix marked A 2.

12.—State value of stores received in 1876.

Total value of stores received and brought on the books was Rs. 388,264·01. For particulars see appendix marked A 3.

13.—State value of stores on hand 31st December, 1876.

The total value was 722,589 rupees and 44 cents.

This value shews not only the remains in store on 31st December, but also includes stores issued but not paid for, called outstandings.

14.—What per-centage is charged on stores issued from Colonial Store, and state the various charges that this per-centage is intended to cover.

Thirty-three (33) per cent. is the per-centage added to the net invoice cost, and it is intended to cover packing, freight and shipping charges, landing and removing to Colonial Store.

It should be borne in mind that the Colonial Store price list is only revised at intervals. The two last editions were issued in 1871 and 1877.

The per-centage is not a rigidly uniform rate; in some cases it is insufficient. Two instances which can be referred to in file of invoices for 1876 will suffice to shew the difficulty in fixing a per-centage.

We received ex "Flamingo," steamer, viâ Suez Canal, the following:—

10 (ten) tons pig iron, invoiced ...	£59	0	0
Freight list shews charges	22	14	0
Printing paper and foolscap, invoiced ...	59	0	0
Freight list shews charges	47	12	11

These are exceptional, and it would be impossible to fix a price list rate to continue in force five or six years that would meet such cases.

Freight varies and charges vary. Taking stores generally I consider 33 per cent. a reasonable rate.

15.—Is the per-centage the same for articles obtained from England and for those obtained locally?

There is no per-centage charged on any article purchased locally.

The price recovered is the same as that paid, and in the voucher "purchased rate" is inserted as a guide to the Audit Office, and to account for departure from price list.

16.—When articles arrive from England and are delivered direct to departments, do you make the departments pay the per-centage departmental charges?

No; the services and intervention of Colonial Store Department are not in any way charged for.

Only the actual expenditure by the Colonial Store Department for landing, removing and delivery is recovered.

17.—Does the Price Current give the prices of articles plus the per-centage or has that to be added?

There is no per-centage to be added to rates of the approved price list.—See paras. 1 and 2 of preface to list.

18.—What course is pursued in obtaining stores from England, and what guides you in preparing your requisitions?

Stores are procured by indents on Crown Agents. Sometimes to meet the special demand of some departments and to keep up stock. On receipt of an indent from any department or officer, if the article should not be in store, or the issue would reduce stock too low, an indent would at once be sent in.

On the Assistant Colonial Storekeeper representing that stock of any article in his charge is getting too low, an examination is made, and after considering the quantities indented for but not yet received, an indent would if necessary be prepared.

Here arises the chief difficulty connected with upkeep of stock. There is not a department or officer who can furnish more than a merely approximate estimate of wants in advance for any given period.

In 1873 I was ordered to reduce stock to sufficient for one year. A considerable quantity of stores was accordingly disposed of at great loss.

In April, 1877, it was decided that stock should be reduced to sufficient for six months. This has been attended to.

As an instance of the difficulty there is in dealing with indents and keeping stock:—

In July, 1876, the Public Works Department estimated the probable requirement of 3½' angle iron at 100 bars for remainder of 1876, and 200 bars for the whole of 1877. There was in store 800 bars; but I took on myself not to reduce stock, and the whole 800 bars were issued so rapidly, that I had to indent on Crown Agents in March, 1877, for 200 bars, the whole of which was issued within a week of its receipt, and I had again to indent on Crown Agents for 200 bars.

Here the estimate was 300 bars for eighteen months, and a consumption of 800 in a little over nine months.

19.—What is the average time between demand and receipt of stores? What stores take most time? What stores take least time?

About six months.

Blasting fuse has been received in four and-a-half.

Iron of various sizes in five months.

One indent for mamoties was completed in between five and ten months; delay caused by strike.

Buckled plates in four months, hammers, cutties, and bill-hooks, five to ten months.

Articles, which are of ordinary description and in general use, are of course in stock in hands of the manufacturers, and can be procured promptly. Such articles can be received here in four months from date of indent, or more expeditiously if ordered by telegram; but the telegraph can only be safely relied upon for orders for articles of known or established size and pattern.

An important question arises as to the economy of indenting for small quantities, which the Crown Agents alone can answer. Can they procure stores in small quantities on as advantageous terms as in moderately large quantity.

Taking for granted that Government intends to adhere to the rate that stock is to be kept down to six months' supply, I shall probably at end of two months have to indent for three months' supply and so on.

The question of six months' stock does not affect the Store establishment, as the same establishment and equipment will be required, whether it be for six, nine, or twelve months' stock. If the issues are steadily increasing, as undeniably they are (vide reply to No. 9), the stock dealt with must necessarily be larger, and subdividing of the supply into six or eight instalments in the year in place of two or three rather adds to the work, and the receipts will become as continuous as the issues.

Frequent indents necessitate frequent inspection and approximate stock-taking. I am, however strongly, in favour of keeping stock low, only doubting the wisdom of a hard and fast rule. On this point I should be greatly influenced by the opinion of the Crown Agents.

20.—Do you consider that any of the articles we are in the habit of getting from England could be obtained as reasonably and of as good quality from the local market?

I have had to resort to the local market for tools, paint, linseed oil, turpentine and sundry stores,—all articles for which the demand by the outside public generally is very considerable,—and yet there has been hardly an instance in which the articles were not complained of as inferior in quality. The price has occasionally been lower than our price list rate, but the inferiority of the article made it dear at any price.

Good paint, such as white zinc has been procurable, but at rates considerably in excess of Store price list. This may also be said of other articles. Cotton cloths and one or two other exceptions.

Recently I was directed to resort to market to purchase mamoties on account of an almost unlimited order for the Madras Government for famine relief works. I bought 32,669 at prices ranging from 6 rupees and 25 cents to 13 rupees per dozen. With the exception of a few hundred which had some steel, they were of the commonest kind, absolutely worthless, but I had to buy, and left the market almost bare.

Now it should be borne in mind that these worthless soft implements were shipped on consignment, or imported on order for local consumption in a market where demand for mamoties, which are used throughout the Island, must be very great. The demand always exists, yet about 90 per cent. of the supply to be obtained in market was without exaggeration worthless.

One merchant asked 36s. per dozen, and would only sell even at that rate as a favour. I did not deal with him.

This I consider a fair representation of what may be expected if local market or local dealings are relied on.

Asphalt and coal tar are procured in local market.

Good asphalt in this climate fuses into solid mass even in the most sheltered store, and there is loss in breaking up for issue. The quantity used for Government purposes is small, chiefly by contractors, who will not draw good and pure from store at the cost of good when they can procure inferior in market at a cheaper rate, averaging forty rupees per ton.

By buying coal tar in the market I think Government gains.

Cement was recently procurable at nine rupees per barrel of white Birmingham manufacture. I heard it might have been got for eight rupees and fifty cents. Either of these rates must have been under cost.

Some time ago the market was bare, and consequently numerous orders were sent home. European and native traders alike imported large quantities. Coming to hand the native trader would sell and suffer a certain loss rather than have to pay storeage rent awaiting an improved market.

I am of opinion that, as a rule, cement should be imported by Government, and the market only availed of under special and exceptional circumstances.

The history of cement bought in the market cannot always be known, and though seemingly good it may be old and deteriorated.

As far as I can judge, nothing should be bought in local market that can be procured through the Crown Agents.

If the market be resorted to as a rule, the door will be opened to [illegible].

The Crown Agents have the assistance of experts in each branch of trade to inspect and test the quality of every article. They are at the source of supply, in the midst of genuine competition. Here the only persons who could be so employed would be more or less directly the consumers, and this is not the most objectionable and demoralizing contingency. Every one connected with the process would be more or less under pressure; it is not an easy task, except theoretically, to thoroughly avoid and be independent of private influence and association. Even though no attempt to influence be made, there still remains the fact that all, from highest to the lowest, have a preference for their friends. I have seen this even in the case of persons who, not only by official position, but from a natural sense of propriety, believe themselves thoroughly impartial.

I certainly would not undertake inspection and rejection or acceptance of the mass of stores required by Government. And I doubt if Government would allot to any person, with the requisite training to fit him for inspection of such heterogeneous mass of stores, such salary as would reasonably place him (or them) above influence and temptation.

In England there is real competition, here there would be little—two or three perhaps, who eventually would combine and share the supply; a mere limited liability concern, with all profit and no loss.

It would require a floating capital of at least 250,000 rupees, and I submit that any man commanding such a sum would not be likely to keep a shop for Government at such rates as a fair competition such as exists in England would ensure.

I feel very confident that if Government decides on resorting to the market generally for supplies, it will gain a very costly experience.

21.—Can you purchase locally for the departments as quickly and as advantageously as the departments can purchase for themselves?

I have a great objection to purchases in local market, and would gladly be relieved of any such duty; but if purchase in market is allowed, there can be no doubt that it is better and more economical for but one department to go into market; by this means quantity purchased is larger and procurable on better terms than it could if sub-divided by each officer supplying himself. Of course there must in this case be some delay, but it would not be worth considering.

I am told that the practice of local purchase by individual officers is largely on the increase; whether this is the case—or, if the case, it is advantageous—I cannot say.

There are Provincial Road Committees which hardly ever draw stores, and yet must get them somewhere.

It cannot be advantageous to have numerous small stores throughout the Island, source of supply and articles supplied to which are under little or no control. If the persons using supplies are the purchasers, there is the germ that leads to demoralization. I would suggest that reference be made to the Government Factory as to local purchases. I believe the sum spent in market is considerable.

22.—From what source was timber obtained in 1876?

The timber used in 1876 was procured in 1875 by advertisement in *Government Gazette*, specifying quantity and sizes required. Copies of this advertisement were sent to every merchant in Colombo, and also to the leading merchants in Calcutta and Madras, Rangoon and Moulmein.

Tenders were received, and that of Messrs. Fryer, Schultze and Co., the lowest, accepted by Government.

This was the cheapest teak received during the last nineteen years, and it was throughout of even and superior quality.

Some thirty logs were rejected as defective or inferior, and sold by auction at a higher price than the contract rate.

13,898 cubic feet of Johore timber was also procured by Government from Singapore at end of 1875.

23.—Do you consider that all timber required for use in the Colony can be obtained on good terms?

I consider that the question of supply of timber requires much consideration. So little is known, of a reliable nature, of the timber growing in the Island, that it seems to have been accepted as necessary to import teak.

At first, from its cost being greater than Island timber, it was sparingly used. As Island timber became scarcer and consequently dearer, the use of teak became most general. It is nice looking and easily worked; is durable, and so engineers and all concerned prefer it.

I believe that careful research would shew that the general and indiscriminate use of teak is unnecessary; that there are numerous timbers in the Island sufficiently good and durable, which might be used with advantage for purposes for which costly teak is now used.

It should however be borne in mind that the question of supply of Island timber is surrounded with difficulties; remote situation of forests, absence of practicable roads or tracks for transport, unhealthiness of jungle, and, above all, difficulty of finding a reliable person to undertake a contract.

I have personal knowledge of the difficulties experienced in 1858 and 1860 to get European contractors. Native hiring proved unreliable.

The recent laws for preservation of forests, &c., would also add to the difficulty, and then even if all these were overcome, Island timber must be stored to be seasoned before use.

24.—Would it be possible to obtain a reliable contract for supply of timber; and if so, would you recommend a one, two, or three years' contract?

I am of opinion that if tenders are invited for sufficient timber to meet estimated wants for two or three years, say 1,500 to 2,000 logs of various lengths and dimensions, and that the contractor be allowed to deliver it at his convenience, not less than 600 logs at a time, very superior timber, will be obtained. Timber merchants will be induced to tender.

25.—Does the price of teak vary greatly?

The following are the rates at which contracts were made for teak within my experience:—

		Price per Ton of 50 cubic feet. £	s.	d.
1858, Borrodale & Co., Calcutta		14	10	0
1864, Halliday Bullock, Rangoon		11	16	0
1866, Gladstone, Wyllie & Co., Calcutta		11	10	0
1873, Fryer, Schultze & Co., Colombo	40 to 50 feet long ...	17	10	0
	30 to 40 „ ...	14	2	0
	20 to 30 „ ...	11	9	11
1875, Fryer, Schultze & Co. ...	20 to 30 „ ...	10	10	0
1877, J. M. Robertson & Co. ...	20 to 30 „ ...	11	16	0
1877, Do. for Railway		12	4	0

The following purchases were made by Government on offer by firms stated:—

1876, delivered 1877, Fryer, Schultze & Co., a small lot ...	10	10	0
1877, Stevenson and Son	10	10	0

26.—When stores are received what course is pursued—first, in examination of such stores, then in taking them on the books?

When stores are received from England, unless required for immediate issue, the packages are arranged and sorted as far as the unsuitable nature of the premises will admit.

Each package is labelled, shewing description of contents, date of receipt, and name of ship.

As a rule no inspection takes place on receipt, if the packages are in good order.

As they are required for use each package is inspected and contents verified by comparison with invoice.

Articles locally purchased are carefully inspected by the Assistant Colonial Storekeeper and compared with samples on which they were purchased. If there is any difference or discrepancy he would at once bring it to notice.

As soon as practicable after receipt of stores from England a statement or schedule specifying the articles received is sent to Government, and authority obtained to bring them on returns. We are at times unable to keep the book up to date, and so it has happened that a portion of a shipment received from England has been issued before being brought on returns.

27.—Do you consider that the stock on hand of any article is in excess of the quantity that, with a due regard to probable requirements and the time necessary for obtaining further supplies, need be kept in store?

Yes, we still have a considerable excess of various articles.

Almost the whole quantity is of very long standing. Portions of the iron 1¼″ bolt, of which there is a very large stock, was in store when I joined the department over 19 years ago. Its use by public departments has been discontinued, and only a small quantity is now used annually.

This applies to several other sizes and description of iron.

There is a large quantity of plate iron of ¼″ thickness of various sizes. These sizes are now said not to be so convenient, and other sizes of same thickness are asked for.

I submit that it should be an imperative instruction to use what is in store, and any plea of waste or extra cost of working up should not be listened to, because the iron was procured on indent (by departments), in which no particular sizes were specified, and Crown Agents accordingly, I presume, sent ordinary size in stock.

28.—Is there much loss by wastage, deterioration, and how much per cent. on the total cost of stock would you put down for this?

Since removal of stores from Fort Store in close proximity to sea-spray and damp there has been little or no loss on metals from corrosion. The loss from this was no doubt at one time very great.

Wastage on articles of provision used to be ascertained periodically, but since we gave up supply of troops no fixed periodical wastages have been ascertained.

From June, 1872, to April, 1876, no wastage was ascertained. The verification in 1876, shewed as follows:—

On arrack $\frac{3}{4}$ per cent.
On soap $\frac{3}{7}$ „
On sugar $\frac{1}{14}$ „

This was for the full period of four years.

From April, 1876, to March, 1877, the wastage on arrack was ½ per cent.

The wastage possible in Colonial Store would only arise on paints, turpentine, oil, and such stores as spill, leak or evaporate, and on which there must be loss by small issues. We issue whenever practicable by whole package, and so avoid wastage.

29.—State as fully as possible the relations between your store and the railway store, and what returns are rendered to you by the railway storekeeper, and what amount of supervision you exercise over the railway store?

The railway store was attached to the Colonial store on 1st January, 1868.

As the whole of the stores for railway are in charge of the railway storekeeper, and the stores in Colonial Store are in the immediate charge of the Assistant Colonial Storekeeper, my relation to the two stores are similar, except that my offices being in the Colonial Store, and the railway store being at a distance, my supervision of the latter is not so intimate.

The railway store being for supply of special articles, the bulk of which are only suitable for railway purposes, I interfere as little as possible in the management of the store.

The storekeeper furnishes to me monthly his accounts—vouchers for all stores issued by him. I recover the value, and notify date of credit of the sums in my accounts.

He furnishes monthly a statement of value of stores struck off, and the sums still due.

He furnishes monthly a detailed return of stores, shewing remains as per last return, issues and receipts for the month, and remains and value thereof.

All indents are submitted to me in rough draft for approval, and finally forwarded by me to Government.

The whole of the cash duties are my special charge.

No moneys pass through hands of the railway storekeeper; he is entirely free from such responsibility.

W. J. GORMAN,
Colonial Storekeeper.

26th November, 1877.

12th January, 1878.

PRESENT:

Hon'ble D. WILSON.	RALPH TATHAM, Esq.
ALLANSON BAILEY, Esq.	ALEXANDER MURRAY, Esq.

HON'BLE W. H. RAVENSCROFT IN THE CHAIR.

The Colonial Storekeeper was examined with reference to his replies to some of the above Questions:—

(*Mr. Wilson.*) Have you any manufacturers' indents? I see none in the file.

I have no manufacturers' indents. I do not know how the Crown Agents deal with the manufacturers.

There was an instance I believe, some years ago, in which the Crown Agents advertised for Chubb's locks. A commission agent undersold Chubb, who will not give Government the trade discount.

The Chairman.—With the view of keeping up the necessary stock for the requirements of the service, and with a view of holding as small a stock as possible, state what you consider the number of months' stock that should be held—1st, of articles liable to quick deterioration; 2nd, of articles little liable to deterioration.

We have not many articles now which quickly deteriorate. I should think that six months' stock would be sufficient. No stores should be of less than six months' stock. I think there should be a nine months' stock of pickaxes, &c.—things, that is, that are required in large quantities and which do not deteriorate.

The Chairman.—It has been suggested that we might make a contract for two or three years to deliver timber when and where required by Colonial Store or other Departments. Do you think this could be done?

I think the plan would fail. It would be making a merchant a retailer; the business would fall into the hands of one or two, and they would soon cease to give satisfaction.

I think there ought to be one timber yard only, and that there ought to be a yard where the timber could be converted.

Do you think that a contractor would deliver at the Railway Stores and at the Factory in quantities required?

Yes; there would be no difficulty about that. In that case, no timber need be delivered at the Colonial Store; but I consider that it would be desirable to deliver all timber at the Colonial Store, and to convert it there into dimensions required. This plan would entail the least possible waste.

Can you say why the old Sawing establishment was discontinued?

When the plan was started, there was an officer constantly supervising the work. When the Military work was separated from Colonial Store the establishment was reduced, and frauds were discovered. There is no doubt a good deal of timber was stolen, and ultimately the establishment was abolished.

What establishment do you consider necessary?

I consider an assistant would be necessary to look after the timber yard, and to do nothing else. His salary should be ultimately 3,000 rupees a year after approved service. We used at the Galle Buck to have forty sawyers at work at a time, so that it would require a superintendent solely to look after this work. The cost of the establishment would be recouped. If we had a converting establishment, there would be no complaints.

Can you state why you are at times unable to keep the books up to date?

Stores come in January; but they are not brought on to the books till the end of the quarter in March. In the meantime we have to issue some of those stores in January and February; occasionally we cannot bring stores on the books for five or six months, owing to absence of clerks. If one clerk only is absent, the work gets into arrear; at present we have only one ledger for all stores. If there were separate ledgers, and if there were one clerk added to the establishment, I think we might avoid issuing stores before bringing them on the books.

Do you take stock periodically?—

No; we only take stock at the verification held once in six or seven years. We have not the establishment to take stock frequently.

(Mr. Murray.) Can you not arrange to have articles in bulk in smaller packages: for instance, fuse is in casks of 6,000 feet, whereas the Public Works Department indents are never more than 3,000 feet.

I have already endeavoured to meet difficulties of this kind. When I ascertain the wishes of departments, and acting upon my own knowledge, I get less bulk quantities.

Do you, when you strike off articles as not in store, always ascertain whether those articles are procurable in the market?

No, we do not as a rule.

I may add, that occasionally I receive requisitions for articles not in store, and which have hitherto not been indented for. For these I do not go into the market, as they are not procurable of good quality; they are not articles of usual equipment, and, if required, the want might have been foreseen and the articles indented for from England.

MINUTES OF EVIDENCE.

Council Chamber, Colombo, 7th January, 1878.

PRESENT:

Hon'ble W. H. RAVENSCROFT,
Hon'ble D. WILSON,
RALPH TATHAM, Esq.,
ALEX. MURRAY, Esq.

1.—J. F. CHURCHILL, Esq., Acting Director of Public Works, Colombo, examined.

1.—What are the rules observed with regard to obtaining materials?—By requisition on Colonial Store.

2.—From what sources are you supplied with materials?—Partly from Colonial Store and partly from local market. But it often happens that articles cannot be supplied from the Store.

3.—How do you indent for stores?—An annual indent is prepared at the end of June of each year, for the remaining half-year and the whole of the following year. This is forwarded to the Colonial Storekeeper.

4.—Do you consider the indents now sent in meet the requirements of the service?—They are estimates only, and cannot be relied on.

5.—In what way do you consider the quantities of articles required could be more satisfactorily notified to the Colonial Storekeeper?—It would be impossible to state accurately what will be required. I can suggest no other mode, as it is not known what will be required until the annual estimates are passed, and the works to be undertaken are known.

6.—*Timber.* Do you consider the present mode of obtaining timber satisfactory?—Not altogether. Timber is drawn from Store and frequently from local market without intervention of Colonial Store; the latter course is pursued when the sizes in Store are unsuitable and the cost is not in excess of the Store prices.

7. What would you propose as a more satisfactory mode of timber supply?—That a contract be made for supply of timber in logs or converted, subject to approval, and to be delivered at the Railway or the Government Factory.

8 *a.*—*Local Purchase.* Do you ever purchase in the market, and if so, who actually makes the purchases?—Yes; the storekeeper of the Department, subject to approval of Factory Engineer.

b.—What articles do you usually purchase in market?—Articles of all descriptions.

c.—Could all local purchases be made on your account by the Colonial Store with advantage to your Department?—I think all articles should be purchased for my Department by the Colonial Storekeeper; practically, we have been forced to purchase ourselves to save time and prevent a stoppage of works.

9.—Are you of opinion that articles and materials can be purchased locally with advantage?—Certainly not, under the present system. Several Departments in the market at once must tend to raise prices. As a rule, the articles procurable are very inferior, being imported for sale to natives.

10.—In what manner are you supplied with materials, &c., at outstations?—They are drawn from Colonial Store, and forwarded to stations, except articles such as bricks, timber, and lime, which are procurable on the spot.

11.—Is any difficulty experienced in obtaining supplies from Colonial Store, and if so, in what respects? At times there is considerable difficulty, owing to articles not being in store when required. Our largest demands are during the first four months of the year. At this time the Stock in store appears to be lowest.

(*a*). With regard to articles in stock? Delay did exist, but the arrangements are now satisfactory.

(*b*) And can you suggest any means of obviating such delay?—By a sufficient stock being provided to meet requirements at the *beginning of the year.*

12. There is a quantity of 1¼ in. bolt iron in store, which has been lying there a long time, and is not called for; can you make use of it? I was unaware that this was in store. It can be used up with the least possible delay.

13. Is timber drawn from Colonial Store for all works in the Island?—Not for all.

(*a*) If not, for what stations is it drawn?—Mostly for Colombo and Kandy.

14. Are the articles drawn from Colonial Store of good quality?—Very good.

2.—W. DEED, Esq., Factory Engineer, examined.

1. Do you consider the present mode of obtaining timber, *i. e.*, from Colonial Store or local market satisfactory?—I think it is more satisfactory to get it from the local market than from the Colonial Store, as there is a larger choice than at the Colonial Store, where little choice is permitted; and there is also great difficulty in getting timber from Colonial Store of the required length. I also think the cost of timber from the Colonial Store is, as a general rule, greater than the cost in the local market. In the latter, timber is the same price for any length. In the Colonial Store the price increases per foot according to length.

2. Can you suggest any means of obtaining timber, that would be more satisfactory than the present?—I consider that a contract would be very satisfactory—for logs at per cubic foot—the lengths and sizes to be named at the time the timber is required. I do not consider that it would answer to obtain converted timber by contract except planking. I think conversion of timber for other purposes can be more satisfactorily carried out at the Government Factory.

3.—FRANK VINE, Esq., Provincial Assistant, Colombo, examined.

1. State what is proposed with regard to alteration of existing Colonial Store buildings, and do you consider that by the alterations proposed a building in all ways suitable for the purpose for which it is required will be provided?—It is proposed to open out the rooms; to convert the existing seventy-two rooms into about eight, and to put in two lifts. The present building with above proposed improvements can never make a really good store. To make it a thoroughly good one would cost about 10,000 rupees.

2. Have you provided for a sample room?—One could be fitted on estimate for proposed alterations of store.

3. There is a large quantity of Johore timber in the Colonial Store; for what purposes is it required, and what is the yearly consumption?—For jetties and heavy bridge works. It is difficult to state the annual consumption; 500 logs may be used in one year, and perhaps only 100 in the next.

4. Do you consider the present mode of supplying timber satisfactory?—Not quite: I think it capable of improvement.

5. What improvements would you suggest?—For all island-grown timber, a timber depôt for the supply of departments should be established at the Government Factory, and the timber supplied by the Forest Department, similar to the plan adopted at Galle. For foreign timber I would recommend local contracts for logs and converted timber, if timber is to be converted in Ceylon.

6. What would be best to do with the timber lying in store, for which there is little or no demand?—This can only be decided by an examination of the timber on the spot.

10th January, 1878.

PRESENT:

Hon'ble W. H. RAVENSCROFT, Hon'ble D. WILSON, | RALPH TATHAM, Esq., ALEX. MURRAY, Esq.

4.—E. STRONG, Esq., Resident Engineer, Ceylon Government Railway examined.

How do you obtain stores?—From the Railway Store in every case, unless articles required are not in Railway store, when requisition is returned marked "Not in store." If the article is likely to be in Colonial Store, I apply there.

Have you any difficulty in obtaining stores?—No. Small articles not constantly required we have occasionally purchased without intervention of Colonial Store. Mango wood is purchased in market. If Colonial Store cannot supply, we are compelled to purchase, as Colonial Store does not in any case purchase for us. When we purchase, it is always at a disadvantage.

Do you consider stock in Railway Store is in excess or less than what is actually required?—The stock is fairly proportioned to our wants.

What system do you pursue with regard to indents?—They are usually prepared in consultation with the Railway Storekeeper, who forwards indents to Colonial Storekeeper.

Do you suppose there is more than six months' stock in store?—Yes, I should think so. In comparison to work done by Railway, I think stock small.

Do you consider the store buildings suitable, and stores well arranged?—I think so, except the heavy things left outside, for which there should be an enclosed yard. The rails and sleepers are kept near the Darley Road entrance. In my opinion, for receipt and delivery a clerk should be kept at the gate to check the articles delivered, including coal, which is also kept near here, and is at present checked in and issued by coolies.

Timber.—How do you obtain timber?—Hitherto from Colonial Store. When not procurable there, it is purchased by us direct from the market. I have lately got in a stock of teak procured through the agency of the Colonial Storekeeper. It is stored at the Railway, and unless transport thus avoided. I consider this mode to be the most advantageous. It is a saving of time and money, and great wastage in conversion is avoided. A portion of this timber is in logs, but a larger portion in scantlings.

In what way do you saw your timber?—Logs are sawn by hand, and afterwards reduced to required scantling by circular saw.

In your experience, what do you consider the most advantageous duration of time for a contract?—I recommend the purchase in large quantities, that is, by shiploads as required.

The sizes required to be furnished would be given by me. In procuring timber by contract there would be no difficulty in rejecting inferior wood. From date of publishing advertisement to date of delivery of timber would be about twelve months.

The hora and mango wood required for the Department is always purchased by me in the market.

Do you draw any millilla from Store?—I have drawn millilla from the Colonial Store, but have found the wood most wasteful, as the logs in store are hollow.

Statement by Mr. Strong.—I think it desirable that the Storekeeper in communicating charges should always state the Invoice price of English stores. We are sometimes charged one price, and sometimes another, and much larger, price for the same thing. For instance, we have been charged the same price for a tire as a whole wheel would cost obtained from England.

12th January, 1878.

PRESENT:

Hon'ble W. H. RAVENSCROFT,
Hon'ble D. WILSON.
ALLANSON BAILEY, Esq.
RALPH TATHAM, Esq.,
ALEX. MURRAY, Esq.

5.—C. G. COLSON, Esq., Inspector of Schools, examined.

(*Mr. Wilson.*) I have heard that some copy-books for your Department that were lately sent out by the Crown Agents were of bad quality—an old stock in fact—instead of copy-books of the kind ordered; is this the case?—An order was sent home for Swan's copy-books and the Crown Agents sent another series called the National Series. The Crown Agents have since sent some Swan's copy-books, and they stated that when they sent the National series in lieu of Swan's, the latter were out of print. The National series copy-books were not suitable for this country, rules having been made for the kind ordered. The National series were not of bad quality, but they were not suitable.

(*The Chairman.*) Do you get stationery, &c., from the Crown Agents? and do you find the articles good?—Yes; we generally get what we order, and the quality is good. The above is the only instance to the contrary. We do not purchase in the market, but I know that as to copy-books we could not get them as cheaply in the market.

(*Mr. Wilson.*) Do you consider the paper of good or fair quality?—I consider the quality fair. There is nothing remarkable about the quality.

6.—W. MITCHELL, Esq., Railway Storekeeper, examined.

(*The Chairman.*) The Railway Engineer informed us that he never knew what he would be charged for stores; and sometimes he is charged much more than at others; can you account for this?—Stores are supplied at nett cost. Some four years ago iron rails cost £17 a ton. We now get *steel* rails at £10 a ton. This shows difference in prices. The case mentioned by Mr. Strong was probably owing to this fall of prices.

How do you prepare your indents?—I frame indents after reference to the monthly returns and to the stock in hand. I sometimes consult the Engineer as to certain articles when the stock gets low; but the indents emanate from me.

Is there any unnecessary delay in the issuing of stores from the Colonial Store?—No; they might be a little sharper in some instances.

Do you consider your system could be extended to a store ten times the size of yours?—Yes; the same system is followed on the Great Western and on the London and N. W. Railway, the two largest systems in England.

15th February, 1878.

PRESENT:

Hon'ble W. H. RAVENSCROFT,
Hon'ble D. WILSON,
ALLANSON BAILEY, Esq.,
RALPH TATHAM, Esq.,
ALEX. MURRAY, Esq.

7.—GEORGE WALL, Esq., examined.

1. (*a*) Do you believe that the Merchants of Ceylon would be able and willing to supply all goods required by the Government for the service of the Colony, either on indents at a moderate commission, or on tenders at fixed prices?—Yes. I cannot imagine any wider range of articles than my own firm indents for. We indent for all descriptions of goods. We send indents home, get the best trade discount, and charge a commission on the nett cost.

A question very naturally arises: Why should a merchant be able to do better than the consumer himself. Why should not all go to the manufacturers. The reason is this. All manufacturers are jealously watched by the wholesale traders, and if any of the former should deal with the consumer direct, he would lose his custom with the wholesale dealers. The Government is not supposed to be a wholesale dealer, but a consumer, and the consequence is it cannot deal as advantageously as a merchant.

(*b.*) Under the first mentioned system manufacturers' invoices would be furnished, and all trade discounts and extra discounts for cash would be to the credit of the Colony and duly accounted for?—Certainly.

2. Are not trade discounts allowed on most goods varying from about five to fifty per cent. or more on some articles? And is there not generally a further discount of 2½ per cent. for cash payments?—I think trade discounts are allowed on everything. Excessive discounts are accounted for in this way. The price of certain articles is kept the same, and the discount is made higher or lower. A further discount for cash is almost invariable.

3. Look at some of the Crown Agents' invoices for goods furnished to this Colony in 1876 and 1877. How do you account for the absence of manufacturers' invoices and, in most instances, discounts not being allowed? Is this correct according to the usual custom of business?—I cannot account for trade discount not being allowed in the invoices shewn to me. Invoices are usually made out shewing the trade discounts, not shewing nett price only.

4. Do you consider any of the invoice prices higher than usual; and should not such large indents with *cash payments* command the most favourable terms?—I am not prepared to say; but my belief is, the Government pays the highest prices for the goods it purchases.

5. The invoices of V. & R. Blakemore are headed "The Crown Agents, Bought of V. & R. Blakemore." How do you account for 2½ and sometimes 5 per cent. commission being charged?—If Blakemore is a manufacturer, he should not charge commission on his own goods. If he is an agent, he would get a commission from the manufacturer.

6. You will observe in many instances a charge of 2½ per cent. for *inspection*; would this charge be done away with if merchants furnished the Government supplies?—Yes, certainly. A merchant would take all proper precautions to secure the quality of the goods ordered, and would make no charge for inspection unless it were some particular matter.

7. Would not the merchant supplying goods be responsible for their good quality on arrival?—Certainly.

8. Do you think three months' time would be sufficient for samples or particulars of indents to be sent home, and for prices for tenders to be telegraphed out?—Things ordinarily in the market could be got out in three months. Articles to be manufactured would of course take longer. The merchants have a cipher code by means of which one word would convey "Our stock of such and such goods is low," and a further supply would in consequence of the telegram be at once sent out. Three months would be sufficient to get out a tender.

9. Are you aware that most of the teak timber used by the Government is supplied by merchants. Do you know any good reason why all goods required from England should not be supplied in a similar manner?—I am not acquainted with the question of supply of teak timber, but, with regard to other articles, I see no reason why the goods required by Government should not be supplied by a merchant.

(*The Chairman.*) What course should be adopted in the case of a dispute between the Government and the Merchant as to the quality of goods?—There would be no difficulty in such a case; a board of survey should be appointed; one member by the Government and the other by the merchant; and the decision of such a board should be binding. You would of course in most cases have some standard or sample by which to judge.

Which system do you think the merchants would prefer:—to supply on commission, or at fixed prices on tenders?—Merchants could not afford to keep in stock things that are not used often. The most satisfactory plan for the merchants would be to tender for, and supply upon indents from time to time, the goods required by Government.

8.—John Capper, Esq., examined.

(*Same Questions as put to Mr. Wall.*)

1. (*a*) Answering in a general way, I should say certainly, and I believe if it were known that the Government would make local purchases, large firms would sent out agents to take up contracts.

(*b*) Certainly—but I think it would be the best plan to deal by tender.

2 & 3. I am not in a position to answer these questions.

4. I have made some comparisons between my invoices and the Crown Agents' invoices for stationery, and I find that the *Demy* is about the same price. I produce sample of both: ours is much superior in quality. The price paid by Government for *Royal* printing paper is 19*s.* 2*d.* a ream, and the Ceylon Times *Royal* (same weight) is 16*s.* 9*d.* For *Double Foolscap* 28 lbs. 19*s.* 6*d.* is Government price; our price for same paper same weight is 16*s.* 6*d.* As Manager of the Ceylon Times Press, I have had some experience in paper; and we import more than any other press. Within the last two years I have reduced the price of paper from 20 to 10 per cent. without loss of quality. This was by causing enquiries to be made by our agent and buying at cheapest rates. The trade discount on paper is only 2½ per cent. The discount on printing materials ranges from 10 to 16 per cent. I have occasionally bought paper at the Colonial Store; the quality is the same, but the prices are higher. The quantities we import are much smaller than those imported by Government; and if I were to send as large an order as that shewn to me, I should expect a reduction of 6*d.* or 9*d.* a ream.

[The questions Nos. 4 to 9 were not put to this witness.]

Mr. Wilson.—Do you know anything of the Crown Agents' mode of dealing? I know that the orders for school books for this Colony about two years ago were not sent to an educational bookseller, but to a map-seller in Charing Cross. There are regular educational publishers.

9.—G. B. Leechman, Esq., examined.

(*Same Questions as put to Mr. Wall.*)

1. (*a*) Yes; a merchant could buy anything if you give him time.

1. (*b*) Yes; all discounts would be disclosed on the invoices. I think the best plan would be to supply things on commission. It would be preferred by the merchant.

2. On Birmingham goods—*i. e.*, hardware, and holloware—the discount is very large; the

prices of these articles are fixed, and the discount varies. There is a further discount for cash of 1½ or 2½ per cent. I think on Manchester goods there is no trade discount; on most other goods there is a discount.

3. I cannot account for the absence of invoices and discounts. It is usual to have the manufacturers' invoices, which would shew the discount allowed.

4. I cannot give any opinion as to the prices.

5. I don't know the firm of Blakemore, but from the invoice I suppose he may be a buying agent or a warehouseman.

6. A merchant would make no charge for inspection. If the Government required a scientific inspection (of an iron bridge, for instance) the Government would have to pay for it.

7. Yes.

8. Three months would be sufficient; but four months would be better.

9. I believe teak is supplied by merchants. I don't see why all goods should not be supplied in the same way. The difficulty would be for the Government to select a merchant.

(*The Chairman.*) What should be done in case Government decline to accept goods on the ground of inferior quality? The mercantile way of settling a dispute about quality of goods is to have a board. I don't think the merchants would object to a board of one Government officer and a merchant, with power to call in the help of an expert. The price of articles would not be increased on this account.

26th February, 1878.

PRESENT:

Hon'ble W. H. RAVENSCROFT,
Hon'ble D. WILSON,
ALLANSON BAILEY, Esq.,
RALPH TATHAM, Esq.,
ALEX. MURRAY.

10.—E. B. CRYASY, Esq., examined.

You have had large dealings in timber, and import it?—Yes, from Rangoon and Moulmein: from the latter port principally. And in native timber, too, which is procured from Battticaloa.

Do you know the sizes, &c., ordinarily required for Government works?—Yes.

Have you supplied the Government with timber?—Yes, as Agent for Messrs. Armitage Bros. and Murray Robertson. I was the person who had the direct management of this part of their business.

Can you depend on always obtaining a supply from Moulmein? and of all sizes?—Yes, at all times of the year. All sizes can be obtained, but to get logs 40 feet and over in length some notice would be required.

Are scantlings likely to suffer from transhipment, landing, &c.?—No, except the small sizes, say 2 in. scantling and under. What we supplied to the Railway was 4 inch, and was delivered in splendid order.

Do you think it would be advisable for Government to get a contract for timber to be delivered in sizes and at places required, or a contract for a large quantity, say a shipload?—It would be more advantageous to the merchant to deliver a large quantity. Timber can now be obtained of all sizes in the market, and I could at once supply timber required, provided the quantity were not very large, *i. e.* not over 1,000 tons. The Fairfield Works Company and others also supply timber.

At what rate per ton do you supply timber at present time?—About 100 rupees per ton in the log.

Have you supplied timber to the Public Works Department?—Yes, in considerable quantities for use in Colombo and elsewhere.

Are you supplying now, and, if so, converted or unconverted?—I am supplying the Provincial Assistant, Jaffna, with converted timber. I have had enquiries from the Factory for unconverted. I supplied Anuradhapura, Kegalla, and other places.

What is the price of converted timber?—125 rupees per ton, *i. e.*, 2 rupees and 50 cents per cubic foot; that is the present price.

The price of converted timber would not be at any time much more than 2 rupees and 50 cents per cubic foot?—No, I think not; of course I am speaking of teak now.

Can you supply teak as cheap as country timber which is used for the same purposes?—I could supply teak at as cheap, if not cheaper rates.

Would you be prepared to supply all the timber required by Government of all sizes? Bear in mind that Government sometimes requires logs of 40 feet length.—I could supply any quantity of teak except the long timber. I could not undertake to supply logs 40 feet long. Logs of such length are very scarce now.

11.—The Hon'ble W. W. MITCHELL, M.L.C., examined.

(*Same questions as put to Mr. Wall.*)

1. (*a*).—I think merchants would be able and willing to supply all articles required by Government. They would probably not be found in stock in the merchants' godowns at present, but they could be easily obtained. The Government require articles of a superior quality. Full particulars would be required in either case, but a merchant would be perfectly willing either to supply upon commission, furnishing all the invoices, or to invoice goods at the nett prices. I don't think the Government could expect a merchant to keep a large stock of everything required. Business is changed now, and stocks are kept as low as possible. There is no doubt

that a merchant would undertake to send home indents; to purchase the goods and have them submitted for the inspection of a representative of the Government at home; and furnish all invoices to Government, allowing them all trade discounts. If any dispute arose *here* about goods not so inspected, the matter could be submitted to a board of survey, as is usually done now.

(*b*).—Yes.

2.—Trade discounts are nearly always allowed. On Birmingham and Sheffield goods the discount is very large, as much as 75 per cent. The price is fixed, and the discount varies. There is also a cash discount of 2½ per cent.

3.—I cannot say why this is the case.

4.—I have compared some of the Crown Agents' invoice prices with some price lists I have. The difficulty of course is with regard to quality; but taking *descriptions* alone, I have made some comparisons. Glaziers' diamonds are invoiced by Crown Agents at 25*s.* each; in a price list I have, the best quality is quoted at 216*s.* a dozen, or 18*s.* each.

Sheet iron was charged on the 2nd December at £12 a ton. The prices current shew the price to have been, at that time, £9.

On 1st December, 1874, Blakemore charged for rose nails 1¼ inch at 35*s.* 9*d.* We got some at same time of good quality (better than usual) at 26*s.*

For 1½ inch nails 33*s.* was price charged to Government; 23*s.* was what we paid.

For 2 inch nails 25*s.* 6*d.* was price charged to Government; 16*s.* was what we paid.

For 2½ inch nails 23*s.* 6*d.* was price charged to Government; 15*s.* 8*d.* was what we paid.

For 4 inch nails 17*s.* 6*d.* was price charged to Government; 12*s.* 6*d.* was what we paid. Ours were particularly fine wrought rose nails. I have no other means of comparing quality than by the description. The following are further comparisons:—

Files (half round), rough 18 were invoiced at 34*s.* 6*d.* (Blakemore). In the price lists they are charged 60*s.* less 50 per cent. discount, *i. e.* 30*s.* nett.

Mamoties vary in quality very much. I have an invoice here with mamoties invoiced at 11*s.* 9*d.* a dozen. Blakemore charges 1*s.* 4½*d.* each.

Steel sledge hammers are in one place invoiced at 10*d.* a lb. In other places they are invoiced at 28*s.* a cwt.

For tin tacks ½ inch long, £2 19*s.* a cwt. is charged to Government. In the price lists the charge is 38*s.* On iron kettles a discount of 30 per cent. only allowed by Blakemore; others allow 37½ per cent.

Blakemore's invoice for 12 pairs bellows, size 2 feet 9 inches, shews 68*s.* 3*d.* nett, no discount allowed. Invoiced in price current, size 30 inch. at 92*s.* less 47½ per cent. discount, *i. e.* 48*s.*

5.—If the goods are bought of Blakemore and Co., as the invoices are headed, he ought not to charge a commission. If he is a Commission Agent he should head his invoice "Bought for account of———," and attach the manufacturers' invoices. A Commission Agent would allow all trade discounts to his constituent, and charge a commission, sometimes on the gross and sometimes on the nett amount. There is no strict rule about this. There are no manufacturers' invoices attached to Blakemore's invoices.

8.—Most goods could be tendered for in less than three months. Six weeks or two months would be sufficient for all ordinary articles.

9.—Have you ever supplied the Government with timber; and do you know anything of the timber market?—I have not supplied to Government, and I can't say I know anything of the timber market.

12.—G. L. Bennett, Esq., examined.

[*Same questions as put to Mr. Wall.*]

1. (*a*) Yes; in either manner. Speaking for my own firm, we should prefer to charge a commission on manufacturers' invoices. That is our usual form of business. We do a good deal in that way. When we supply goods on commission we allow our constituents the manufacturers' discounts, and our commission is charged on the nett amount paid to the manufacturers. It may be said, on the other hand, if the Government elected to obtain goods on commission they would be liable to the charge of favouring one more than another.

(*b*.) Yes.

2. Manufacturing discounts are allowed on Birmingham goods. Shippers' discount, at from 5 to 20 per cent., is allowed on most things, and there is also a cash discount, generally at 2½ per cent. The shippers' discount is allowed to exporters by wholesale dealers. Discounts depend upon the system of business of individual firms. One firm may have special facilities for supplying a certain article, and would allow a larger discount than another house in the same line. The large discount on Birmingham and Sheffield goods is accounted for in this way: the manufacturers nominally charge the same price as they did when they employed hand labour, and they now regulate the actual cost prices by the amount of discount allowed.

3. I cannot say; with regard to discounts I have already stated what is usual.

4. I cannot speak as to prices.

5. I should not attach the least importance to this heading of Blakemore's invoices. He has simply made out the invoices on paper printed in the ordinary form for his firm. In this invoice, shewn to me, the mamoties are probably *Elwell's* (what the Government generally use), and were bought on account of the Crown Agents by Blakemore, who of course charged commission for his services.

7. Yes; articles in the local market are generally inferior. Natives will not pay a larger price for better quality, but there would be no difficulty in getting articles of the best quality, if required.

8. Ample time.

9. Does your firm deal in timber? We do not deal in timber except for export.

13.—R. L. M. Brown, Esq., examined.

[*Same questions as put to Mr. Wall.*]

1. Yes; all English goods. I should prefer the commission method; the profits are certain. In the tender system there would be risk. The commission system might lead to the belief that favouritism was being exercised.

(*b.*) Yes; they ought to be. The commission would be charged on the London invoice including freight and charges.

2. Trade discounts are, as a rule, allowed; there are some goods on which no discount is allowed. They vary considerably in amount.

3. Here is an invoice dated March 31st, 1876; I see no discount in it. I have received mamoties from E. Elwell of Wednesbury Forge. He allowed us 30¼ per cent. (I speak from recollection.) December 31st, 1875, an invoice for mamoties, pickaxes, &c., no discount allowed. These goods ought all to have discount. I have an invoice of my own with me in which we are allowed 77½ per cent. discount for screw nails.

[*Questions 4 to 7 were not put to this witness.*]

8. I think so. Two months would ordinarily be required to procure goods ordered by telegram.

14.—F. D. Mitchell, Esq., examined.

1.—You are the contractor for the Kalutara Railway?—Yes.

2.—How do you obtain your goods?—Through an agent in London.

3.—Will you describe your method of procedure?—I advise my agent of what things I require. He invites tenders, and the tenders are submitted to the Consulting Engineer. The goods are inspected in London by a person appointed by the Crown Agents for the Colonies; if approved, we are paid in London; and I pay my London agent 2½ per cent. commission on the actual cost on board ship of the goods. When I purchase things in the ordinary market in England we always settle a price; no discount is allowed, as I agree for a net price. I trust my agent to see that the things are good, that the firm he deals with is a good one.

4.—What are your arrangements about shipping the goods?—My agent does this at cheapest possible rates. For his commission he has to see the goods on board ship. We don't stick to one broker, but go from one to another to get the lowest rates.

5.—Do you purchase in the local mark ts?—I do occasionally purchase in the local market. The articles are much inferior and higher in price proportionately.

6.—Do you find the arrangements you have described satisfactory?—Perfectly; and we have rapid despatch. The articles are thoroughly good. This is partly due to my agent, and to the fact that we do not go to any firm but those we can trust.

7.—Do you use much timber?—Yes; I buy as I want it. I once imported from Moulmein, but I got more than I wanted, and I could not get rid of what I did not require. I always buy in the log.

8.—How do you do your sawing?—I saw by hand. Steam sawing is cheaper, and not much more wasteful. I intend to use a steam saw as soon as I can get it fitted up.

9.—Is teak scantling procurable in the market?—Yes, I believe so; but I buy timber in the log and convert it as required.

10.—Are teak logs of 40 feet length easily obtainable?—I bought one the other day; but they are very scarce and are getting scarcer every day.

[illegible] examined

(*Same questions as put to Mr. Wall.*)

1 (*a.*) Yes I should think so. I think the commission system would be preferred; there is no risk.

(*b.*) Yes.

2.—Discounts are allowed upon all manufactured articles as far as I know, and an extra discount is generally allowed for cash. I don't know that the latter obtains in all trades. It is customary for buying agents to attach manufacturers' invoices to their own.

[*Questions 3 to 7 not put*].

8. Ample time.

9.—We have supplied Government on several occasions with teak timber. We have a contract now which has been completed except in respect of timber of one dimension. There is no reason why all goods required by the Government should not be supplied by a merchant.

10.—Could teak scantling be got from Moulmein?—Yes, of any ordinary dimensions; it arrives in as good condition as logs. It would be cheaper to import scantling than to get logs and saw them up here. There has been for some time a good quantity of scantling in the market

16.—H. BALDWIN, Esq., examined.

[*Same questions as put to Mr. Wall.*]

1. (*a*).—Yes. I think on commission would be preferable.

(*b*).—Yes.

2.—Yes; on all manufactured articles, and an extra discount for cash, generally at 2½ per cent. The trade discounts vary.

[*Questions 3 to 7 not put.*]

8.—Yes; for all ordinary merchandize.

Do you deal in iron?—Yes, pretty extensively. We do not import tools. We chiefly import bar and rod iron. I cannot say positively from memory what discount we get. I think it is five per cent. On all tools there is a heavy discount. In the invoices shown to me (Blakemore's) no discount is allowed. He may have taken off the discount in the price.

17.—C. C. ARMITAGE, Esq., examined.

[*Same questions as put to Mr. Wall.*]

1.—Yes; I should think they would prefer the tender system. It would probably be cheaper for Government, as the merchant would take every care to cut down charges, and if tendering for large quantities of goods he could charter a small ship and fill up with other things.

(*b.*) Yes.

2.—Trade discounts are allowed on most articles; a cash discount for immediate payment. I have no doubt that the Crown Agents could get the full trade discount. I don't see how a manufacturer could refuse it. If they said they would not allow it to the Crown Agent personally, he might order the goods through a shipping firm or get his clerk to order them. At any rate the Crown Agents could get 2½ per cent. for cash. I have brought an invoice with me in which we have been allowed 70 per cent. on a very small quantity of goods ordered for our mills. In this case we were the actual consumers of the goods.

[*Questions 3 to 7 not put.*]

8.—Ample time. The goods should be inspected at home previous to shipment by a responsible person. In that case manufacturers at home might be induced to tender through the merchants here. They would not tender, if the quality was to be decided here, so readily as if it could be settled at home.

(*The Chairman.*) The Government should have no difficulty in supplying itself with teak timber?—No; there would be no difficulty in getting a contract here. The price of teak does not vary very much in Moulmein. Here of course the price depends on supply. If notice were given, scantling could be imported cheaper than it could be converted here. They have better appliances for converting timber, and in many ways it would be advantageous.

What would be the best time to give out the contract?—About June would be the best time.

6th June, 1878.

PRESENT:

Hon'ble W. H. RAVENSCROFT, ALLANSON BAILEY, Esq. | RALPH TATHAM, Esq., ALEX. MURRAY, Esq.

18.—ROBERT DAWSON, Esq., examined.

If the Government were supplied by merchants on commission, what discounts would the merchants allow?—It is customary to allow discounts in all trades—in the hardware trade they are heavy. A merchant supplying Government would allow all discounts which he gets from the manufacturers, and would charge a commission on the nett cost.

How do merchants get their own goods?—They order through their agent in one of the large towns in England, and he goes into the market and purchases on the best terms. The agent allows the merchant credit for all the discounts, and charges commission on the nett cost plus the charges.

Is there any other mode of dealing?—Yes. The shopkeepers in Colombo now often send their orders to manufacturers direct. I have also done a good deal myself in the way of supplying goods at fixed prices.

Can you account for invoices shewing both discounts and commission?—Many manufacturers act as Commission Agents also. On goods of their own manufacture they would allow the usual trade discount; on goods purchased they would allow credit for any discount they got and charge commission.

What is the usual rate of commission?—Five per cent.

Do you think manufacturers would make any difference in the matter of discount between the Crown Agents and wholesale dealers?—I don't think so. The manufacturers would allow the same discounts to both parties. I could mention several firms that I am sure would allow the Crown Agents full discount.

Do you think the present market could supply the wants of Government?—No. You cannot depend on the market as large stocks are not kept, but a merchant could of course get anything that might be wanted.

Do you think a merchant would agree to keep an establishment or store and supply Government with everything which it requires from time to time, and enter into a contract to keep a proper stock, &c.?—Certainly I think he would; and if Government were to advertise, I think a company would be formed for supplying Government. There would be no difficulty about having the goods inspected in England. Goods could be imported in 35 days from date of order. A breach of contract would of course subject the contractor to a penalty. The contract might provide that Government officers should be allowed to inspect the contractor's stores; and if the stipulated supply were not kept up, to purchase at his risk in the market.

What would be done about articles not included in tender?—They would be supplied at cheapest procurable rates; a commission being charged on the cost.

Do you see any reason why the Crown Agents should not furnish supplies as cheaply and satisfactorily as a merchant?—I don't see why the Crown Agents should not supply as cheaply as a merchant. The only advantage in having a local contractor would be that Government would not have a dead stock of superseded articles, as is the case at present.

19.—E. Elliott, Esq., examined.

How has clothing been hitherto supplied to the Prison Department?—On sanctioned requisitions from the respective Fiscals. At the time I wrote to Government on the subject there was great delay on the part of the Colonial Store in supplying made-up clothing. In September, 1877, requisitions of February had not been complied with. The clothing is made up at Welikada by prisoners, the cloth being issued by the Colonial Storekeeper to the Superintendent on his receipts. When made up the suits are returned to the Colonial Storekeeper for issue. The prison tailors were last year continually in want of work. They had no cloth to work up. The Superintendent reported in November that the Colonial Storekeeper had refused to issue cloth, as there was none in store that need be made up. What I want is, either that the cloth should be issued to us as fast as the prisoners can work it up, and a sufficient supply of made-up clothes be kept in store; or that the clothing vote be taken in the name of the Inspector-General of Prisons, and that he be allowed to make his own arrangements. I only employ a sufficient number of tailors to keep up the necessary supply.

20.—Captain Gorman, re-examined.

Describe the mode of supply of prison clothing. Have there been any delays or difficulty in furnishing the Prison Department with cloth to be made up?—The material is of a pattern approved by the Government on the recommendation of the Inspector-General of Prisons. It is imported from the Basel Weaving Establishment. Formerly the cloth was issued as it was wanted, and we had nothing more to do with it. The prison accounts some time ago got into confusion, and we were ordered to take in charge the suits and issue them, and recover value. We charge a fixed price for each suit; no separate charge for making. The only difficulty arises when we run short of cloth. There is no other difficulty; and I have no objection to issue cloth as the prison authorities want it. The tailors do not always work up the cloth quick enough. There have been delays this year, for instance.

What periodical balancing of stores have you?—I furnish quarterly returns to the Auditor-General shewing balances. I should like to have this return made a monthly one.

Are stock-takings made periodically?—No. We have no means of ascertaining whether actual balances agree with nominal balances except by the periodical verifications once in five or seven years. We have had four verifications only in eighteen years.

Could you not take stock once in half a year, or once a year?—No, the stores are so unsuitable that we should have to stop work to take stock. The same description of article is at present in different parts of the building.

Could it be done if the store were made suitable?—Yes.

Do you consider your subordinates suited to their work?—No, not all of them. The issuer has been suspended two or three times. I have reported on them all confidentially. I have no reason to doubt in the least their honesty. Their salaries are insufficient. It has occurred more than once that the salary of a man in a position of trust has been seized by the Fiscal.

7th June, 1878.

PRESENT:

Hon'ble W. H. Ravenscroft, Allanson Bailey, Esq. | Alex. Murray, Esq.

21.—D. S. Power, Esq., examined.

For what articles does the Colonial Store make contracts?—We make contracts for furniture, cocoanut oil, &c. We used to make contracts for provisions for the hospital, but the Department has taken that work into its own hands. We buy a few articles for the "Seresadib."

Those we get at best market rates. We keep a stock of arrack, but have no contract for that.

We supply the crew of the "Serendib" with rice, ghee, and curry-stuffs; paddy and gram to Mounted Orderlies; and fuel to "Serendib" and Government Printer.

Cocoanut oil is supplied to all offices.

When a fresh supply of arrack is received, is a verification made of the remains in store?—Yes, and the wastage is struck off.

Do you make contracts for timber?—Yes, we make contracts as required. The timber work is in my special charge.

On receipt of requisition from a Department, when the article indented for is not in store, what is done?—Articles not in store are struck out, and the Department indenting informed. It is not usual to inform the Public Works Department; the articles not in store are simply struck out of the requisition.

What steps are taken to ascertain whether the required materials are procurable in the local market?—Enquiries are usually made; but in case of articles ordinarily kept and imported from England, not being in stock, the market is not resorted to, unless a special request is made, as it is known that the market cannot supply the articles of proper quality.

Are materials procured locally, such as bolt and bar iron mamoties, pickaxes, &c., purchased subject to the approval of the indenting Department?—It is not usual to purchase subject to approval of indenting Department. Articles are not tested; but what we consider most suitable is purchased, and sent to the Department. There has been no case of refusal to accept until recently.

Do you use the telegraph in ordering out stores?—Not as a rule; but in urgent cases we have asked the Colonial Secretary to telegraph. We have no cipher code.

Can you suggest any means better than the present of keeping up stock and preventing the store running out of certain articles?—We are guided by the indents sent in by Departments. If Departments would let us know when they are likely to exceed their indents, it would be a great help to us.

Are issues to private individuals made frequently?—Not more than twice a month. There is not so much necessity for them now, as the market is better supplied; but there are still many things not in market that can be got at the store.

Describe the course of procedure when requisitions are received at the store?—Stationery requisitions are handed at once to the clerk in charge. There is a separate clerk and a separate ledger for stationery, which is issued free. The other requisitions are kept by me and given to the clerk who issues general stores, as he has time to attend to them.

What books do you consider ought to be kept by the Assistant Colonial Storekeeper—*i. e.*, when the system proposed by the Commissioners (if approved by Government) comes into force?—Proper ledgers should be kept. When the triplicate requisition is sent by the Colonial Secretary to the Store office to be filed there, the ledger only will be sufficient with issue books for each issuer, and a Way-bill book. The staff at the disposal of the Assistant Storekeeper would be sufficient if the store were conveniently arranged.

Are the store buildings at present not suitable?—No, they are badly arranged.

Should not articles received in bulk such as fuze, paint, &c., be reduced?—Yes, and reductions have been made. Fuze is now imported in half barrels of 2,400 feet, and paint in 28 lb. kegs.

Order Books.

2.—These books contain copies of all orders issued by the Assistant Colonial Storekeeper on Contractors.

Receipt Books.

3.—All articles received by the Assistant Colonial Storekeeper are entered; and the Return in which they will appear is stated, before the Assistant Colonial Storekeeper certifies the Voucher, &c., on which payment is made.

Railway Warrants.

4.—The Assistant Colonial Storekeeper issues Warrants to the Railway Department for transmission of all Stores sent by rail.

The warrant specifies address of goods and weight.

The Rail Department checks and then enters the rate, whether for 1st or 2nd class goods, &c.; and amount.

These warrants are sent periodically by the Financial and Traffic Manager to Colonial Storekeeper, who pays the amount due. The counterfoil of each Warrant is filed by Assistant Colonial Storekeeper

Store Ledger.

5.—Shews all receipts into Store and the issues as per Quarterly Return.

[In connexion with this book I must call attention to the recommendation contained in my reply to your query No. 6]

Copies of Requisitions.

6.—This book contains copies of all requisitions on which stores are struck off on each Quarterly Return.

Voucher Book.

7.—In each branch there is a Voucher Book in which is entered a copy of each Voucher sent to Departments for payment. It shews the date of requisition on account of which the charge is made.

Perfected Voucher Book.

8.—This is a Register of date of each Voucher, the name of the Department to which sent, and amount. As each payment is made the Colonial Storekeeper enters date of receipt by him of the amount at same time as he signs the receipt.

This Register shews at a glance all Vouchers which are unsettled.

Petty Cash Book.

This book is kept by the Shroff under the directions of the Assistant Colonial Storekeeper, who directs payment on account of petty expenditure.

A 1.

Colonial Store.

THE GOVERNMENT OF CEYLON ..... Dr.

To

Received from the

being in full

the sum of

as per above account of particulars, furnished for Her Majesty's Service, and for which have signed this Receipt.

187

Witnesses to the Payment.

I do hereby certify that the articles charged in this Voucher were actually received, and will be brought forward on my Return for the 187

We do hereby certify that the rates charged in this Voucher are fair and reasonable, and the quality of the articles good.

A 2.

						Rs.	Cts
Value of stores imported from England and brought on the Colonial Store Books during the year 1876						280,339	33
Value of stores imported from India and			do.	do.		32,720	84
Do.	purchased in the Local Market during the year 1876					27,716	68
Do.	Furniture on contract		do.			29,076	97
Do.	Provisions	do.	do.			17,913	5
Do.	Chunam, &c.	do.	do.			497	14
						388,264	1
Value of stores imported from England and not brought on the Colonial Store Books during the year 1876						340,062	98
						Rs. 728,326	99

A 2.

Statement of Amounts paid for Stores by each Department or others for the year 1876.

		Rs.	Ct
1.	Director of Public Works ..	222,785	73
2.	Principal Civil Medical Officer, including Hospitals	38,097	97
3.	Director, Public Instruction	6,065	62
4.	Fiscal and Prisons	27,684	81
5.	Ceylon Government Railway	20,422	56
6.	Post Office ...	20,709	27
7.	Government Agent, Western Province, including Foresters and Village Councils	3,988	52
8.	Do. Central Province do. do.	2,760	11
9.	Do. Northern Province do. do.	1,714	49
10.	Do. Southern Province do. do.	2,515	92
11.	Do. North-Western Province do. do.	3,956	12
12.	Do. Eastern Province do. do.	1,808	79
13.	Do. North-Central Province do. do.	1,150	7
14.	Police ...	35,099	9
15.	Master Attendant	5,444	37
16.	Government Steamer	3,952	22
17.	Breakwater ...	12,458	19
18.	Registrar-General	987	75
19.	Customs ...	380	96
20.	Railway Extension Surveys	144	72
21.	Colonial Secretary, including Printing Office	1,591	7
22.	Director, Botanical Gardens	172	79
23	Surveyor-General	625	81
24.	Telegraph ...	292	94
25.	Colombo Museum	262	22
26.	Courts, including Queen's Advocate	1,407	33
27.	Archæological	4	27
28.	Loan Board ...	0	25
29.	Colonial Store, incidental charges	1,870	5
30.	Treasury ...	119	38
31.	Audit Office	243	9
32.	Mounted Orderlies	7,036	36
33.	Government houses	7,024	32
34.	Road Committees	7,125	8
35.	Estate Hospitals	17,467	62
36.	Royal Engineers	2,223	60
37.	Ceylon Savings Bank	7	87
38.	Municipality	769	27
39.	Industrial School, Kandy	929	79
40.	Auction Sales	1,900	74
41.	Government Contractors	3,639	85
42.	Private Individuals	1,441	9
	Total ... Rs.	452,931	57

B.

LETTER referred to.

From the Chairman, Colonial Stores Commission, to the Hon'ble the Colonial Secretary.

Colombo, June 6th, 1878.

Sir,—The Colonial Store Commissioners have ascertained in the course of their inquiries that much time and labour are unnecessarily spent in the preparation of vouchers in support of payments made for articles drawn from the Colonial Store.

According to the present system, issues from the Store are made, to all Departments but one, on requisitions sanctioned by the Colonial Secretary. When the requisition has been complied with, a voucher is prepared by the Colonial Storekeeper for the amount of value of the articles supplied, and it is forwarded for payment to the Department or officer drawing the stores. After payment has been made the Colonial Storekeeper signs receipt on the voucher in acknowledgment of payment, and inserts date of credit.

The Public Works Department—the Department which deals most extensively with the Colonial Store—draws its supplies on "temporary receipts," which state the estimate on account of which the demand is made. If sanction of the estimate has been notified to the Colonial Storekeeper by the Colonial Secretary, the issue proceeds. At the end of each month the Public Works Department prepares sets of general requisitions, which contain the whole of the issues made on the temporary receipts. These requisitions, with vouchers in triplicate for the articles drawn under each estimate, are sent to the Colonial Store for examination. After being examined they are returned to the Director of Public Works, who again sends them to the Store with drafts or orders on the Treasury in payment of value of stores received. The Colonial Storekeeper signs the receipt attached to the vouchers, inserts dates of credit, and forwards them with the requisitions to the Treasurer. The number of separate vouchers prepared by the Public Works Department averages about 500 a month.

Experience shews that in the working of the abovementioned system great delay arises in settlement of accounts between the Departments drawing stores and the Colonial Store, outstandings of a year and upwards being not uncommon; and that much clerical labour is employed that it appears to the Commissioners might be saved; and, further, that issues are not brought to account by the Colonial Storekeeper at the time they are made, the practice being to delay bringing them to account until payment has been made for them.

In view of these circumstances and to obviate, as far as possible, the inconveniences now experienced, the Commissioners submit herewith a form (A) which combines both requisition and voucher.

The requisition should be prepared in triplicate by the Department requiring stores, and forwarded for the approval of the Colonial Secretary. The triplicate copy should be retained, if required in the Colonial Secretary's Office, and the original and duplicate returned to the indenting Department, which should forward them to the Storekeeper for insertion of the value of the articles and for the issue of the stores.

The Head of the Department drawing the stores should immediately, on return of the vouchers so filled in and the receipt of the stores, complete and sign the receipt and certificate, and forward both original and duplicate to the Storekeeper with a Government draft, or with the Bank or Treasurer's receipt for the value, which should be paid in by the Department to the credit of the Colonial Storekeeper.

The Storekeeper should then without delay complete and sign the receipt for the money and notification of date of credit, and return the duplicate to the Department, to be sent in with the accounts of that Department, the original being retained by the Colonial Storekeeper as an authority for the issue. The vouchers must invariably be marked by the indenting Department, "Original," "Duplicate," and "Triplicate."

The Public Works Department should continue to make its demands in the present form—*i. e.*, upon temporary receipts. At the end of the month requisitions in the form B. should be prepared and sent to the Storekeeper, to be completed in the manner prescribed for other Departments.

The separate vouchers now in use, which are not required by the Colonial Store and, as the Commissioners are informed, are not necessary for the purposes of audit, can then be dispensed with.

All stores should be struck off the Colonial Storekeeper's books and returns as soon as they have been actually issued, and not, as at present, only when payment has been made therefor. The Department drawing stores should therefore lose no time in signing the certificate and receipt, and should, if not prepared to pay at once, return the original requisition only to the Storekeeper, retaining the duplicate until payment is made. But the recognized rule should be that payment should be made at once, unless unavoidable delay is caused by the necessity for drawing money from the Treasury; in which case delay to the end of the month in which articles are drawn, should be permitted; and the Storekeeper should be instructed to report all instances of irregularity in this respect.

The Commissioners further recommend that in the event of articles required not being in store, and when delay must necessarily arise in procuring them, such articles should be struck out, and a remark written by the Storekeeper stating what action it is intended to take, such as: "Will be purchased locally," or "A further supply expected in the course of month," (or as the case may be). Fresh requisitions will be required for such articles, but not a fresh authority from Government, a reference being made to the original requisition in which the articles appeared, and which was approved by the Colonial Secretary.

This being a matter concerning which immediate action would seem to be advisable, the Commissioners consider that it should be brought to the notice of Government at once, with a view to the saving of a large amount of unnecessary clerical labour and to a more immediate settlement of accounts between Departments and the Colonial Store; and, therefore, the Commissioners beg to submit the foregoing suggestions for approval.

I am, &c.,
W. H. RAVENSCROFT,
Chairman.

Form A referred to.

The . Department.....Dr.

To the Colonial Store Department.

	No and Description of Articles	Rate		Per	Amount		
		Rs.	Cts.		Rs.	Cts.	
				Rs.			

Correct.

Colonial Storekeeper.

Signature of Head of Department applying for the articles.

Colonial Secretary's Office,

Colombo, 187

Approved.

Colonial Secretary.

Received this day of 18
from
the sum of Rupees
being value of above articles issued from Colonial Stores, which amount will be found credited in my Cash Account on the 18

Rs.

Colonial Storekeeper.

Received out of the Colonial Stores, Colombo, the above-mentioned articles, which are chargeable as below.

The articles marked * will be brought forward on my Store Return for the half-year ending 18

Here state the vote or No. of sanctioned Estimate against which the total amount of the Voucher is to be charged. Rs. Cts.

Signature of Head of Department.

XVIII.

BILL AMENDING THE POSTAL ORDINANCE.

REPORT of a SUB-COMMITTEE of the LEGISLATIVE COUNCIL appointed to report upon the Bill, "An Ordinance to amend and consolidate the Law relating to the Post Office and the Rates of Postage."

Ordered by the Legislative Council to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

EXTRACT from the MINUTES of a Meeting of the LEGISLATIVE COUNCIL held at the Council Chamber on Wednesday, the 25th September, 1878.

Resolved.—That the following gentlemen be appointed a Sub-Committee to report upon the Bill:

"An Ordinance to amend and consolidate the Law relating to the Post Office and the Rates of Postage."

The Hon. J. DOUGLAS, C.M.G., Colonial Secretary.

The Hon. G. VANE, C.M.G., Treasurer.

The Hon. Lieutenant-Colonel A. B. FYERS, R.E., Surveyor-General.

The Hon. J. VAN LANGENBERG,
The Hon. J. P. OBEYESEKARA,
The Hon. G. B. LEECHMAN,
} Unofficial Members.

BILL AMENDING THE POSTAL ORDINANCE.

REPORT.

THE Sub-Committee on the proposed *Postal Ordinance*, 1878, beg to report as follows :—

Clause 3.—The Sub-Committee are of opinion that the paragraph defining the word "Assistant" should come in next after the paragraph defining the meaning of the expression "Postmaster-General," and before the paragraph relating to the "Deputy Postmaster-General." Also, that the paragraph relating to the "Deputy Postmaster-General" may be altered so as to read as follows: "The word 'Deputy' shall mean any person appointed by the Governor to be Deputy to the Postmaster-General."

Clause 12.—In the second line of this clause the word "three" (pounds) should be printed "five" (pounds).

In the fourth line "one and-a-half" (feet) the Sub-Committee recommend being altered to "two" (feet), which is the maximum length of parcels at present authorized, and which there seems to be no sufficient reason for diminishing.

In line six the word "or" may be altered to the word "and."

Clause 17.—The power vested in the Postmaster-General by this clause may also be granted to his Assistant, to be by him exercised in cases such as the absence from Colombo of the Postmaster-General, and the authority referred to should be obtained in each case with reference to which it is required. The Sub-Committee recommend that

(1.) In the first line, after the word "obtained," the words "in each case" be added; also that after

(2.) "Postmaster-General" the words "or his Assistant" be added: also

(3.) In the third line, after the word "matter" the words "or as a miscellaneous packet" be added.

Clause 18.—The Sub-Committee are of opinion that the power contemplated in this clause should not be vested in Postmasters, and they recommend, accordingly, that this clause be expunged, and that the numbering of the subsequent clauses be altered accordingly.

Clause 27.—In the third line, the word "despatch" should be changed to the word "receipt."

Clause 35.—In the third line after the words "bank bill" the Sub-Committee recommend the insertion of the words "jewels, ornaments, or other valuable articles."

Clause 42.—Also that in the second line of the second paragraph of this clause the word "both" (ends) be substituted for the word "two" (ends).

Clause 43. The Sub-Committee recommend that the sentence "They must not contain any thing closed against inspection," at the end of this clause, be struck out.

Clause 44.—If the alteration recommended in clause 35 be adopted, this clause may be omitted altogether, in which case the numbering of the subsequent clauses will have to be altered accordingly.

Clause 83.—The Sub-Committee are of opinion that the rules to which this clause relates should be published in the *Government Gazette*, and they, therefore, propose the addition at the end of this clause of the words "and shall also be published in the *Government Gazette*."

J. DOUGLAS,
G. VANE,
A. B. FYERS, LIEUT.-COL. R.E.,
J. VAN LANGENBERG,
J. P. OBEYESEKARA,
G. B. LEECHMAN.

Legislative Council Chamber,
Colombo, 2nd October, 1878.

XIX.

PETROLEUM BILL.

REPORT of a SUB-COMMITTEE of the LEGISLATIVE COUNCIL appointed to report upon the Bill, "An Ordinance for the safe keeping of Petroleum and other substances of a like nature."

Ordered by the Legislative Council to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

EXTRACT from the MINUTES of a meeting of the LEGISLATIVE COUNCIL held at the Council Chamber on Wednesday, 2nd October, 1878.

Resolved.—That the following gentlemen be appointed a Sub-Committee to report upon the Bill intituled:

"An Ordinance for the safe keeping of Petroleum and other substances of a like nature."

The Hon. R. CAYLEY, Queen's Advocate.

The Hon. G. VANE, C.M.G., Treasurer.

The Hon. W. VAN LANGENBERG, } Unofficial Members.
The Hon. G. B. LEECHMAN, }

PETROLEUM BILL.

REPORT.

THE Sub-Committee on the proposed *Petroleum Ordinance*, 1878, beg to report as follows :—

Clause 7.—The Sub-Committee are of opinion that the notice required by this clause should be given to both the Master Attendant and the Principal Officer of Customs, and they recommend the substitution of the word "and" for the word "or" in the third line accordingly.

Clause 8.—The labels referred to in this clause, the Sub-Committee consider, should be printed also in the native languages, and the insertion after "highly inflammable" in the eighth line of the words "together with a translation of these words in Sinhalese and Tamil," is therefore recommended.

Clause 18.—The insertion of the word "dangerous" before the word "substance" in the third line is recommended.

Clause 22.—The Sub-Committee recommend that this clause be amended to read as follows : "All forfeitures under this Ordinance shall become the property of Her Majesty."

It is suggested for the consideration of the Council, that the fees payable and the fines recovered under the Ordinance shall be paid into the funds of the Municipal Council or Local Board of the place where the same are levied or recovered.

RICHARD CAYLEY,
G. VANE,
JAMES VANLANGENBERG,
GEO. B. LEECHMAN.

Legislative Council Chamber,
Colombo, 5th October, 1878.

XX.

GRAIN RETURNS.

INCLUDING A RETURN TO AN ORDER OF COUNCIL, DATED 21ST DECEMBER, 1877,

THAT A RETURN OF ALL REVENUES FOR THE LAST THREE YEARS FROM DRY GRAIN BE FURNISHED.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

"Return of Sums received under the Head of "Land Revenue" during 1876, on account of Paddy Grain, distinguishing between the amount levied as Tax on private lands and the amount levied as Rent or Government share on Crown land."

(*The Hon. James Alwis.*)

1876.

Province.	District	Private, Bushels.	Crown, Bushels.	Levied as Tax on private land.	Levied as Rent or Crown share on Crown Land.
				Rs. Cts.	Rs. Cts.
Western ...	Colombo ..	—	—	Nil.	288 57
	Ratnapura ...	—	—	do.	469 87
	Kegalla ..	—	—	do.	Nil.
	Negombo ...	—	—	do.	62 0
	Kalutara ...	—	—	do.	Nil
North-Western ...	Kurunegala ...	—	—	do.	216 20
	Puttalam ...	—	—	981 0	430 0
Southern	Galle, sowing extent ...	275	18		
	Matara, do.	1569	229*		
	Hambantota ...	—	—	3,553 31	2,211 69
Eastern ...	Batticaloa ...	—	—	76 50	357 50
	Trincomalee	—	—	Nil.	82 34
Northern ...	Province ...	—	—	49,805 75	717 88
Central ..	Kandy ...	—	—	3,135 0	786 29
	Matale ..	—	—	Nil.	189 5
	Badulla ...	—	—	1,027 61	122 86
	Nuwara Eliya	—	—	262 15	587 81
North-Central ..	Province ...	—	—	Nil.	Nil.
				58,841 32	5,822 6
For Galle and Mátara, the rents having been sold together, no classification can be made, but taking the crops as even throughout, and assuming that Crown land yields one-fourth to Government, and private lands a tythe, the result is				1,821 41	412 50
			Total .. Rs	60,162 73	6264 56

* Sold for Rs 1,763-92.

"A Return of all Land under Rice cultivation in Ceylon, which pays only one-fifteenth or one-twentieth of the produce to Government; shewing the Extent of Land and Amount levied, and the reason for such exceptional treatment."

(*The Hon. James Alwis.*)

RETURN of all Cultivated Paddy Land in the several Provinces of the Island which pays only one-fifteenth or one-twentieth of the produce to Government; shewing the Extent of Land and the Amount levied.

WESTERN PROVINCE. *Colombo District.*	Extent of Land.	Payment	Amount levied	Remarks.
	A. R. P.		Rs. Cts.	
Four Gravets, Alutkuru Korale South, Salpiti Korale, Hewagam Korale, and Gangaboda and Udugaha Pattus of the Siyane Korale.	Nil.	Nil	Nil.	
Adikari and Medi Pattus, Siyane Korale	5 0 0	1-20th	5 0	This land is owned by Mr. J. H. Perera Samaravira Gunawardana of Kurunwe street in Colombo, who says that a piece of land of his having been taken for Government purposes, the Government share of the field is reduced to 1-20th in lieu thereof; he produces no authority for it.
Ratnapura, Kegalla and Kalutara .	Nil.	Nil.	Nil.	
Negombo (Alutkuru Korale North)	44 1 0	1-20th	44 0	
NORTH-WESTERN PROVINCE ...	Nil.	Nil.	Nil.	
SOUTHERN PROVINCE. *Galle District.*				
Talpe Pattu	3 0 0	1-20th	*0 62½	Granted by Government, at his request, to the family of Maha Arambage Lama Appu, who was convicted before the Hon'ble the Supreme Court, and sentenced to undergo capital punishment.
Matara and Hambantota. ...	Nil.	Nil.	Nil.	
Eastern, Northern, Central, and North-Central Provinces ...	Nil.	Nil.	Nil.	

* Value of 2½ of paddy at the rate of 2s. a bushel.

ABSTRACT

of the Returns of all Land under Rice culture in Ceylon which is exempt from the Government tythe, shewing the situation and extent of such land and the amount which would probably be payable as rent thereon, rated at one-tenth of the produce, with the reason for the exemption in each case.

(*The Hon. James Alwis.*)

(The original returns in MSS. are laid on the Council table.)

	Land exempted on account of									
	Temples		Redemption.		Loyalty.		Conditions of sale.		Other reasons	
	Acres	Value of tythe in rupees	Acres	Value of tythe in rupees	Acres	Value of tythe in rupees	Acres	Value of tythe in rupees	Acres	Value of tythe in rupees
WESTERN PROVINCE										
COLOMBO DISTRICT.										
Salpiti Korale	73	15	.		..		..	...	30	60
Hewagam Korale ...	10	15	...		..		...		...	
Siyane Korale ...	...		130	19	264	32	..	...	12	18
Alutkuru Korale	25	55	20	42	.		.	...	139	231
	423	85	150	277	26	32		...	181	309
KEGALLA DISTRICT.										
Paranakiriya Korale	172	540	...	.	48	195	...	...	...	...
Galboda Korale ...	826	2588	...	...	108	354	.	...	...	
Kinigoda Korale	234	724	.	.	90	271	..	...	.	...
Beragal Korale	654	1955	66	165	44	149	...	...	...	...
Three Korales and Lower Bulatgama	194	311	...	...	92	232	22	86	...	...
	2010	5098	66	165	382	1147	22	86	b	...
RATNAPURA DISTRICT										
Nawadun Korale	546	1278		...	472	516	..	.	...	..
Kolonna Korale ...	926	375		...	.		..	.		...
Atakalan Korale ...	518	800	.	..	186	307	..	...	...	..
Kolonna Korale	148	120	...		...			..	...	...
Medi Korale ...	566	870	...	.	390	654	...	...	...	...
Kuruwita Korale	1468	1940	...		1124	1040	..	...		...
Kuruwiti Korale ...	478	1458	...		80	142	...	...	.	...
	3979	7114	...		452	3677		.	...c	...
Total for the Province ...	5992	3297	216	442	2865	4850	22	86	181	309
NORTH-WESTERN PROVINCE.										
KURUNEGALA DISTRICT.										
Wé udawa Hatpattu.										
Wé uda Korale	184	461	224	560	...	...	...	.	...	..
Gunaratne Korale ..		..	184	958	...	...	..	...	...	...
Gondahaya Korale ..	142	354	5 0	1273	...	...	...	...	...	...
Hewawissa Korale ...	342	857	54	138	...	..	..	...	...	..
Tirgondahaya Korale	218	547	136	339	...	...	..	...	...	...
Madure Korale ..	532	527	52	131	...	...	..	.	...	...
Bulawisdeka Korale	304	760	28	71	...	...	...	..	...d	...
	1722	4306	1188	3469	...	...		...	...	...

(*a*) Said to be by special grant for loyalty to the Dutch Government.
(*b.*) 958 acres yielding Rs. 2,395 tythe exempted for Headmen in office.
(*c*) 2,280 acres do. 3,814 tythe do. do.
(*d.*) 225 acres do. 561 tythe do. do.

	Land exempted on account of									
	Temples.		Redemption.		Loyalty.		Conditions of sale.		Other reasons.	
	Acres	Value of tythe in rupees.	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.
Katugampola Hatpattu.										
Udupola Otata Korale ...	18	44	6	16	...	...	...	...	...	...
Medalassa Korale ...	4	11	132	330	...	...	...	...	...	
Rekowa Pattu ...	32	84	216	538	...	...	...	...	...	...
Katugampola Udukaha East ...	774	1938	210	523	...	...	...	...	...	...
do. do. West ..	730	1824	126	315	...	...	...	...	...	...
do. Meda Pattu ...	318	796	282	704	...	...	...	...	...	...
Yatikaha Korale ...	...	...	...	...	...	...	...	...	...	...
Mairawati Korale ...	...	...	...	...	...	...	...	...	...	...
Angama Korale ..	...		...	...	...	...	...	...	...	...
Pitigal Korale ...	634	1,586	8	18	...	...	...	...	...	...
	2510	6281	980	2444	...		...	...	...c	...
Dewamedi Hatpattu.										
Dewamedi Korale	540	1352	...	...	...	...	...	...	...	...
Medagandahaya	364	911	...	...	...	...	...	...	...	...
Udakaha	...	...	...	...	...	...	...	...	...	...
Walgam Pattu	190	426	...	...	...	...	...	...	...	...
Katugampola	6	14	...	...	...	...	...	...	...	...
Yagam Pattu	...	...	...	...	...	...	...	...	...	...
Kinigama Kappangomuwe ...	8	20	...	...	...	...	...	...	...	...
Girathlam Medagandahaya ..	44	110	...	...	...	...	...	...	...	—
Do. Balagoragandahaya ...	16	42	...	...	...	...	...	...	...	...
Kewatiya Karandewetiya ...	...	...	...	...	...	...	...	...	...	...
Bandara Koswatte ...	...	...	...	...	...	...	...	...	...	...
	1168	2875	...	...	...	...	...	...	...d	...
Hiriyala Hatpattu.										
Mahagalbada Megoda Korale ...	500	1244	...	...	...	...	...	...	...	...
do. Egoda ...	392	980	...	...	...	...	...	...	...	...
Kudagalboda Korale ...	130	326	...		...	...	...	...	...	...
Divigandahaya Korale ..	168	418	...	...	...	...	...	...	...	...
Nilawagampahaya Korale ...	76	192	...	...	...	...	...	...	...	...
Hetahaya Korale ..	144	360	...	...	...	...	...	...	...	...
Tittaweligandahaya Korale ...	8	21	...	...	...	...	...	...	...	...
Ihala Otata Korale ...	176	439	...	...	...	...	...	...	...	...
	1594	3980	...	...	...	...	...	...	...e	...
Wanni Hatpattu.										
Magul Medagandahaya Korale ...	...	...	...	...	...	...	...	...	...	...
do. Otata Korale ..	178	447	...	...	...	...	...	...	...	...
Pahalawisideka Korale ..	40	101	...	...	...	...	...	...	...	...
Gantiha Korale ...	60	147	...	...	...	...	...	...	...	...
Mioyen Egoda Korale ..	4	11	...	...	...	...	...	...	...	...
Hatalispahe Korale ...	146	368	...	...	...	...	...	...	...	...
	428	1074	...	...	...		...	...	...f	...
Puttalam District.										
Demala Hatpattu ...	34	87b	...	...	...	...	...	...	...	...
Total for the Province ..	7456	17603	...	...	...	...	...	...	...	...
SOUTHERN PROVINCE.										
Galle District.										
Gravets ...	...	...	25	4	...	...	...	...	...	...
Talpe Pattu ...	...	...	...	...	...	...	...	...	4	6
Gangabada Pattu ...	...	...	25	47	...	...	...	...	4	8
Hinidum Pattu ...	33	38	...	...	...	...	...	...	...	...
Bentota Walgalawiti Korale ...	...	...	...	...	1	2	...	...	...	...
Total for the Province ...	33	38	50	51	1	2	...	...	8	14

(b.) The above includes only those temple lands for which plans have been purchased.
(c.) 308 acres yielding Rs. 768 tythe exempted for Headmen in office.
(d.) 236 acres do. 595 tythe do. do.
(e.) 280 acres do. 707 tythe do. do.
(f.) 202 acres do. 499 tythe do. do.

	Land exempted on account of									
	Temples.		Redemption.		Loyalty.		Conditions of Sale.		Other reasons.	
	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.
NORTHERN PROVINCE.										
Jaffna District	...	...	656	1640	...	...	...	...	...	...
EASTERN PROVINCE.										
Batticaloa District	210	69	...	...	...	...	...	...	360 a b	113
CENTRAL PROVINCE.										
KANDY DISTRICT.										
Udanuwara	765	4080	1733	9243	20	109	55	293	..	...
Yatinuwara ...	468	1464	1906	8845	5	20	37	148	...	..
Tumpane	47	498	716	25[illegible]3	..	..	22	104	...	...
Harispattu	512	2659	320	17855	11	74	8	47	...	...
Lower Dumbara	258	1024	1718	7834	..	...	180	669	..	...
Upper Dumbara	946	1460	911	1582	...	..	480	592	...	.
Udapalata	252	173	417	1986	...	...	250	1017	...	..
Lower Hewaheta	282	661	460	1670	.	...	217	656	...	...
Upper Bulatgama	1	3	73	2[illegible]5	...	..	58	162	...	..
	3529	1163	111[illegible]4	5181[illegible]	36	203	1307	3688	.. c	...
MATALE DISTRICT.										
South	266	969	2156	7245	30	109	144	380	...	...
East	970	17[illegible]2	688	1793	4	6	290	529	...	...
North	870	1657	4[illegible]6	1050	...	...	326	765	..	...
	2106	4[illegible]18	3[illegible]0	10088	34	115	760	1674	.. d	...
Nuwara Eliya District ..	698	1643	374	1219		...	328	870	... e	...
BADULLA DISTRICT f										
Udakinda.										
Uda Palata	7	49	3½	23	54½	340	...		...	...
Yati Palata ...	23	46	9	56	36	225	38½	242	...	...
Dambawini Palata ...	...		6	37	4½	6	39½	247	...	...
Dehiwini Palata	14	94	3[illegible]½	222	9	56	2½	16	..	...
Mahu Palata	63½	397	15	94	30	191		...	..	..
Gampaha Palata	15½	97	12½	78	5½	35	21½	132	..	..
	102½	653	81½	510	140	853	102	637	...	...
Yatikinda.										
Rilpola Palata	441	1653	21[illegible]½	800	..	..	38	142	16½	62
Bogoda Palata	79½	298	22	82	12½	47	4½	17	...	...
Passara Korale	158	590	7	26	...	.	...	...	7	26
Pattipola . ..	27½	103		..	..	..	...	..	...	...
Kumbalwela Palata .	167	624	.	...	...	...	...	...	...	..
	873	3268	244½	908	12½	47	42½	159	23½	88
Viyaluwa.										
Sorannatota Palata	26	88	17½	65	8	30	...	...	3	11
Oya Palata	105	394	4	15	.	...	...	...	32½	129
Viyaluwa Palata	39	146	...	...	84	315	62	232	...	...
	170	628	21½	80	92	345	62	232	35½	140
Bintenna.										
Aralulupiti Palata	...	...	4	16	...	...	...	...	...	...
Bintenna ...	53	212	71	284	...	...	2	8	..	...
	53	212	75	380	...	...	2	...	...	...

(a.) The island of Puliyantivu has enjoyed from ancient time the privilege of exemption
(b.) 70 acres yielding Rs. 18 tythe exempted on account of Headmen in office.
(c.) 857 acres do. 3,350 tythe do. do.
(d.) 636 acres do. 1,543 tythe do. do.
(e.) 466 acres do. 1,216 tythe do. do.
(f) Return not quite complete.

	Land exempted on account of.									
	Temples.		Redemption.		Loyalty.		Conditions of sale.		Other reasons.	
	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.	Acres.	Value of tythe in rupees.
Wellassa.										
Wegam Pattu	148	740	5	25	...	...	...	...	...	...
Medagam Pattu	141	705	...	...	...	...	...	..	...	...
Nikawetiya	2	10	...	..	...	...	...	...	...	...
Dumbagalla	4	20	...	...	..	...	..	...	...	...
	295	1475	5	25	...	..	...	...	...	...
Buttala.										
Kandukara Korale	4	15	...	...	...	...	...	..	...	...
Buttala	124	465	...	..	...	...	...	...	...	...
Buttala Wedirata	50½	189	...	...	..	..	...	...	...	...
Deyiyanne Gampaha ...	617	2314	...	..	...	...	...	...	...	...
	795½	2983	...	..	...	...	...	...	..	...
Wettawaya.										
Kandapalla	637½	2391	8½	32	140½	527	13½	51	...	...
Wellawaya	...	..	...	...	55	206	2	...	...	...
Sitarama, &c.	283½	1063	...	...	...	..	...	...	...	..
	921	3454	8½	32	195½	733	13½	51	...	...
Total for Badulla District ...	3210	12673	436	1935	440	1978	222	1087	59	228
Total for the Province ...	9473	30297	15264	65055	510	2296	2616	7319	59	228
NORTH-CENTRAL PROVINCE.	3166	15830	...	...	...	...	...	...	...	...
Grand Total for the Island...	26330½	80125	18354	73101	3371	7148	2638	7405	608	664

(*a.*) 2,188 acres yielding Rs. 1,012 tythe exempted on account of Headmen in office.

NOTES.

The exemption in favour of temples was granted by clause 21 of Proclamation of 21st November, 1818.

The exemption for loyalty was conferred on certain chiefs and their descendants by clause 22 of the same Proclamation.

The exemption for the time being of lands belonging to headmen in office was granted by the 23rd clause of the same Proclamation.

The privilege of redemption was granted from 1834 to 1841.

By the conditions of sale of the Crown rice lands sold under the advertisement of 20th March, 1834, between 1834 and 1841, lands so sold were exempted from payment of tythe.

RETURN of all Revenues for each of the last Three Years from Dry Grain in the several Provinces.

Province.	Crown Lands or Private Lands.	Sown with Natcherin, Amu, &c.	Extent about Parrahs or Acres. 1875. Extent.	1875. Tax.	1876. Extent.	1876. Tax.	1877. Extent.	1877. Tax.	TOTAL. Extent.	TOTAL. Tax.
				Rs. Cts.		Rs. Cts		Rs. Cts.		Rs. Cts.
Western *a* ...	Crown lands ...	Amu, paddy and kurakkan ...	232½ acres	2,209 17 *b*	393 acres	1,998 14 *c*	233¾ acres	1,626 84 *d*	859¼ acres	5,834 15 *e*
Southern ...	Crown and private lands ...	Amu, meneri, kurakkan, &c. ...	14,755½ „	25,306 62	11,816½ „	7,747 32	18,311½ „	26,869 5	44,883½ „	55,922 99
North-Western ...	Crown lands ...	Kurakkan. amu, &c. ...	A. R. 639 3	489 50	A. R. 209 3	216 20	A. R. 63 3	187 75	A. R. 913 1	893 45
Eastern ...	Crown and private lands ..	Kurakkan, Indian corn, peas ...	bl. pk. 119 2⅜	1,516 12½	bl. pk. 119 2¼	1,444 76	bl. pk. 119 3¾	1,468 18	bl. pk. 359 0¼	4,429 6½
Northern ...	Do. do. ...	Kurakkan, amu, &c. ...	14,491 acres	49,739 86	12,173 acres	50,653 4	—	—	26,664 acres	99,792 90
Central ...	Crown lands ...	Amu, kurakkan	A. R. P. 1,218 3 4	4,085 59	A. R. P. 974 3 16	1,219 10	938½ acres	429 65	A. R. P. 3,132 0 20	5,734 34
North-Central *g* ...	Nil									

a.—No tax is levied in this province on dry grain raised on private lands. Dry grain raised on Crown lands cultivated without permission is taxed as "Ratninda," and the whole crop is taken to Government.

b.—

	Rs. Cts.
Fine grain ...	150 47
Crops	15 56
	166 3
Brought to account under paddy rented	2,043 14
	Rs. 2,209 17

c.—

	Rs. Cts.
Fine grain ..	49 11
Crops	203 69
	252 80
Brought to account under paddy rented	1,745 34
	Rs. 1,998 14

d.—

	Rs. Cts.
Fine grain ...	235 77
Crops	123 41
	359 18
Brought to account under paddy rented	1,267 66
	Rs. 1,626 84

e.—Of this, 435 rupees and 35 cents was brought to account as "*fine grain*;" 342 rupees and 66 cents as "*crops*" (miscellaneous) under "Sale of Government Property;" and the balance under the head "Paddy Rented."

f.—Tax on private lands is 1-10th. Tax on Crown lands is 1-5th: that is, 1-10th land-share and 1-10th the tax. The dry grain dues for 1877 were remitted by Government on account of drought.

g.—The following sums have been recovered on account of crops grown on Crown land without permit, and credited under the head "Sale of Government Property," and not under the head "Land Revenue." In such cases half the crop is sold on account of Government or the estimated value of half the crop is recovered from the cultivators.

	Rs. Cts.
1875 ...	341 10
1876 ...	543 1
1877 ...	776 30
	Rs. 1,660 41

XXI.

REPORT

ON THE

DISTRIBUTION OF THE CEYLON POLICE.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

REPORT

ON THE

DISTRIBUTION OF THE CEYLON POLICE.

From the INSPECTOR-GENERAL OF POLICE to the Hon'ble the COLONIAL SECRETARY.

No. 138. Colombo, 10th April, 1878.

CEYLON POLICE.

DISTRIBUTION OF.

Report.

Submission of the Distribution Return of the Ceylon Police, called for by His Excellency, with a map

SIR,—I HAVE the honor to submit herewith, in appendices I. and II., the Distribution Return of the Ceylon Police, called for in your letters 351 and 398 of 7th and 12th December last, respectively.

2.—I submit also a map of the Island, in which red discs represent the three head quarters with their twenty-two subsidiary stations, and also the seventy-one outstations, with the number of men at each. The red discs cover the map so much as to make it appear that there are police everywhere. It is scarcely necessary to say that this is far from being the case, or to explain that each disc has an area of several square miles.

3.—I believe it is in consequence of Mr. Downall's strong representation in the Legislative Council, of the necessity for more police in the Uva District, and of my reporting my utter inability to afford escorts for prisoners and convicts between the courts and the jails, that His Excellency the Governor has called for a distribution return of the force in order to comprehend its condition better, and, I fervently trust, to relieve its most pressing wants. His Excellency desired me to forward the Return while he was at Nuwara Eliya, and I should have submitted it earlier had I been able sooner to make the representation which is embodied in this letter.

Appeal for amelioration of the condition of the Police

4.—It is now more than time that the condition of the force should be carefully considered, with a view to its amelioration. That it has not been considered by Government before, is partly due to myself. I have never found leisure to do more than briefly complain in isolated cases—though indeed these cases have been sufficiently frequent—that my men were overworked and not overwell treated. Laboriously engaged as I and all my few superior officers are, every day and all day, with the multifarious duties which each day brings, it is most difficult to find time for a thorough representation of the condition of the whole Department. I trust however to make such representation now, and to convince His Excellency that a considerable relief in men and officers, and some little relief in remuneration, are urgently required. The men are wanted mainly for the Municipality of Colombo, and the officers for the effectual supervision of the whole force.

Government have scarcely kept faith with the Colombo Municipal Council.

5.—I would especially call attention to the fact—which will presently be detailed—that Government in not granting more men for the Colombo Municipality have not only greatly injured the force, but have scarcely kept faith with the Municipal Council.

Constitution, strength, and cost of the Force.

6.—I will begin with the Police of Colombo, but first I would describe in a few words the constitution of the Force.

7.—In round numbers it contains 1,500 men, of whom fifty-seven are Europeans and the remainder Asiatics of many races, but principally Sinhalese, Malays and Coast Indians.

8.—It has one Inspector-General, 4 Superintendents, 1½ Assistant Superintendents (shortly to be reduced by one), 27 Inspectors, 200 Serjeants, and 1,294 Constables,* distributed as shewn on the map.

9.—The Inspector-General makes all rules and regulations for the guidance of the force and overlooks all details of discipline and of crime and fatal casualties.

Of the four Superintendents, one has charge of the Western Province with one assistant (nominal), 12 inspectors and 656 sergeants and constables.

One has charge of the Central Province with one assistant (soon to be made registrar of servants), 7 inspectors, and 473 sergeants and constables.

One has charge of the Southern Province with six inspectors and 181 sergeants and constables.

And the fourth has charge of the Northern, North-Western, and Eastern Provinces with half an assistant (the other half is Deputy Fiscal, Northern Province), 2 inspectors, and 184 sergeants and constables. This superintendent is further in charge of the Head Quarter Stores and Pay Office, and is assistant to the Inspector-General.

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* For details see Appendices I. and II.

CEYLON POLICE.

DISTRIBUTION OF.

Report.

10.—The whole force is one homogeneous body, all the members of which get the same training and partake of every duty in turn. Thus, when 100 Government or general police and 200 municipal police are talked of as being in any town, it is not to be inferred that these are two different bodies of men. They are a body of 300 men, who all in their turn do general duty and municipal duty in the proportion of 100 to the former and 200 to the latter.

11.—The force is a civil police with a semi-military training; the men being clothed in a neat, but very cheap uniform, and drilled. They are armed with Snider rifles and swords, but they carry only batons when on duty other than treasure or convict escort or jail guard.

12.—The pay of the various ranks is as follows:—

Inspector General ...	Rs 12,000	Inspectors ...	Rs 840 to 1,500
Superintendents ...	Rs 4,000 to 5,000	Sergeants ...	„ 300 „ 840
Assistants ...	„ 1,500 to 1,600	Constables ...	„ 180 „ 270

Colombo Police.

Police arrangements for town difficult.

13.—Colombo is a town in which it is very difficult to make effectual police arrangements, for one reason because the lake winding for miles, more like a broad river than a lake, detaches it into distant portions, and because it is further spread out by cocoanut groves and gardens, so that the densely-peopled extremities of Mutwal and Wellawatta cannot be less than eight miles apart. Another difficulty is that a large proportion of the domestic servants are dishonest, and a very large proportion of the poorer native population notorious receivers of stolen property.

Strength in 1871.

14.—In 1871 there were stationed in Colombo 320 police of all ranks, of whom 191 were for municipal service, and the remaining 129 for the general service of Government, such as guarding jails and convicts and Government buildings and property; escorting treasure and prisoners, serving processes, and doing the miscellaneous work which is always arising. A large portion of this 129 men was the reserve of the outstations of the Western, Northern, North-Western, and Eastern Provinces, and this portion was paid for by the people of these outstations. The reserve, which is at the rate of 20 per cent., will be explained further on.* Also, of the 129 men, a portion were kept for letting out to the public as temporary guards and escorts at fixed and very remunerative rates.

General force same now as in 1873.

15.—In 1873, during my absence in Penang, the disbandment of the Ceylon Rifles, so long contemplated, was carried out, and Sir W. Gregory and Mr. Saunders, then Acting Inspector General, carefully decided what was the smallest number by which the general police in Colombo should be augmented, to enable them to assume certain additional duties which were then imposed upon them. That number is the number now—in 1878—with the addition of a slightly larger reserve for the outstations, as they have increased in number, and of the convict guards for the harbour works—guards which, in my own opinion and in that of my Superintendents, Major Tranchell and Mr. Hansard and Mr. Le Feuvre—all military men—are insufficient. The total amounts to 299 men. It was distinctly understood that this force was but sufficient for the special duties assigned to it, and that none of it should be given to the Municipality.† A large portion of it however has been so given, as will be shewn, and given at heavy cost to the welfare and efficiency of the men.

Covenant regarding cost and strength of municipal police till 1879.

16.—The 191 police engaged in the Municipal service in 1871 cost Government in round numbers 71,620 rupees a year, but of this sum the Municipal Council repaid only 62,000 rupees. In the same year—1871—they covenanted with Government that till the end of 1878 they should never pay more than 62,000 rupees, while they were to be supplied with a police force to be kept strong enough to meet the full requirements of the Municipality, but never to be allowed to fall below 191. The Council have accordingly gone on paying only 62,000 rupees a year ever since. Sir Hercules Robinson said of the 191 municipal police that they were

"By no means an excessive force for guarding a population of more than 100,000 persons scattered over an area of 6,500 acres." With regard to the cost, he said:—"It is doubtful whether there is any Municipality in the British empire so favourably situated as Colombo in this respect."‡

17.—But it was very speedily found that 191 men were insufficient; and first, the whole of this number were placed on duty daily, without regard to rest or leave or training, and then the Government police for general purposes were trenched upon. In June, 1873, the Acting Inspector-General reported to Government in a letter which Sir

* See paragraph 28.

† Letter of 2nd June, 1873, from Acting Inspector-General of Police to Colonial Secretary. Reply No. 84 of 6th idem.

‡ These quotations are from two very lucid minutes by Sir Hercules Robinson on Colombo Municipal matters, especially police matters. These minutes took the form of letters of 18th August and 28th October, 1871, from the Colonial Secretary to the Colombo Municipal Council. These letters and that from the Acting Inspector-General of Police, dated 2nd June, 1873, to the Colonial Secretary, throw much light on the subject of this report.

William Gregory fully endorsed, that the Municipal police were quite insufficient,* and at length in the same year a sub-committee of the Municipal Council, at which the Council's Chairman, Sir Charles Layard, presided, pronounced that the Municipality required a force of at least 312 police. This decision was approved by the Council and forwarded to you with the Municipal Secretary's letter 122 of 3rd October, 1873. The Governor acknowledge the justice of the demand, and authorized the Acting Inspector-General of Police to make such increase as was absolutely necessary;† but when Mr. Saunders pointed out to you that he had no money wherewith to pay additional policemen, and enquired where such money was to be obtained,‡ he received, I believe, no reply; nor has any reply that I know of been furnished to this day. When I returned to the Colony at the end of 1873 the matter had been lost sight of, and it is only recently that I have come to a full knowledge of the demand of the Municipal Council and of Sir W. Gregory's admission of its justice. Since that time—since 1873—indeed since 1871 we have never received an additional man for municipal duty. We have struggled on with the men at our disposal, meeting as we best could the ever-increasing wants of the growing town, and allotting daily to its duties from 90 to 120 men more than its allowance.

CEYLON POLICE.

DISTRIBUTION OF.

Report

In 1873 the Municipal Council asked for a large increase. Government agreed, but failed to give the necessary money

18.—Appendix H. shews that throughout 1877 ninety-one additional men were supplied to the Municipality, and yet the work was not properly done. All through that year I was constantly denying the most importunate calls from the Municipal Council and its officers and from private persons, for further aid; now it was an outbreak of cholera or small-pox, and more police were needed to discover the case and isolate or remove them and to carry out the fumigation and other sanitary measures, or it was a long line of road left unpatrolled, or it was a new railway station at which the station master could not keep order, or it was gangs of helpless paupers starving in the streets!

Municipality had actually an average of ninety-one men over their allowance a day during 1877, and yet had not enough

19.—But imperfectly done as the work was person and property were rendered tolerably safe along the ninety-one miles of streets and roads within the Municipality by the help of these additional men, furnished at the cost of the leave and rest and comfort and health, and even character, of all the police in Colombo and of the outstations whose reserve forms part of the Colombo Force.

These men given at the sole and heavy cost of the Police

20.—I would beg to be allowed to begin at once to raise and train additional men for the Colombo Municipality, and to pay them from an advance to be covered by a supplementary estimate. The Municipal Council by their acceptance of the terms of Sir Hercules Robinson, made in your letters of 18th August and 28th October, 1871, are entitled to as many policemen as are necessary. They are getting in a great measure only the overworked reliefs of men carefully allotted to other duties. After the 1st of January, 1879, Government will certainly not let the Council have the easy terms they have now. It surely would be well to make the increase to the force promised by Government—and which is inevitable—while Government have still, though for a short time, to pay for it.

An immediate increase necessary

	Inspector	Sergeants	Constables.
21.. I would ask for an increase of 225 men, namely, that instead of the present nominal force of ...	4	22	165
or the actual force supplied, viz. ...	7	22	253
there should be	8	44	364

For the details of this force, for their distribution, and for their duties, I would refer to appendix H., and to what follows. Here I would say that the increase I ask for is pronounced insufficient by both Mr. Hansard and Mr. LeFeuvre, with whom I have had repeated consultation and discussion on the subject, and these two officers are the present and late Superintendents of the Western Province. I believe Major Tranchell, lately Superintendent of the Western Province for five years, concurs in the estimates of these officers rather than in mine.

22.—The following are the chief items of increase:—

Chief items of such increase.

1.—For the 12 town stations from 68 men to 88.
2.—For the various beats „ 120 „ „ 180
3.—For patrols, for inspection and detection ... „ 15 „ „ 20
4.—Usual reserve ... „ 38 „ „ 66

23.—As regards the first of these items, the twelve stations were in existence twelve years ago, when I took command of the force, with the exception of that at Kew, which has three men. They are widely scattered over an area of 6,500 acres, and the two at Wellawatta and Grandpass are seven miles apart.

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* From Inspector-General of Police to Colonial Secretary, 2nd June, 1873, para. 3.
† Colonial Secretary to Inspector-General of Police, No. 267 of 18th October, 1873.
‡ Inspector-General of Police to Colonial Secretary, No. 291 of 16-10-73.

CEYLON POLICE.

DISTRIBUTION OF.

Report.

The twelve town stations and their work.

24.—I would increase the Head Quarter Station at

Maradana	...	from	11	men	to	14
The Fort Station	...	„	6	„	„	8
„ Galle Face Station	...	„	1	„	„	2
„ Grandpass „	...	„	4	„	„	6
„ Kew „	...	„	3	„	„	4
„ Kotahena „	...	„	4	„	„	6
„ Kollupitiya „	...	„	4	„	„	6
„ Pettah „	...	„	6	„	„	8
„ Modara „	...	„	6	„	„	8
„ Wellawatta „	...	„	3	„	„	4

25.—Details regarding these stations and their duties are given on the second page of appendix No. 11. If eleven out of twelve of these stations with nearly the same number of men as at present were necessary from 12 to 20 years ago, how necessary must they be now, with the town's greatly increased population, area, trade, and wealth!

Town beats 91 miles.

26.—As regards the increase for town beats from 120 to 160 men, I confess I have some doubt as to its sufficiency, and this is the item which my Superintendents consider I under-estimate. At present the duty is most imperfectly performed with sixty men on beat by day and sixty by night. And how can it be otherwise, for there are ninety-one miles of road and street in the town, which gives an average of a mile and a-half to each man! Can thorough supervision of such a length of road be expected from a man who has to patrol it for twelve consecutive hours out of every twenty-four, day after day, almost without intermission, even supposing he has nothing else to do? I think not. But the Colombo police officer has very much more to do than this. He has, as a rule, one hour's drill twice a week. He has often a considerable walk to and from his lodgings; for Government do not give quarters in all divisions of the wide-spread town; and—worse than all—he has often, when he ought to be at rest, to hang about the courts for hours, waiting for the hearing of cases in which he is concerned. Good service is not to be expected under such circumstances, and I consider that the beat constables should be relieved—not every twelve hours as at present—but every eight hours, in accordance with the practice in every properly organised force in the world. If this be conceded, I am willing to undertake that each constable shall take on an average one and a-half mile of beat. This for ninety-one miles is in round numbers 180 men a day, or sixty for each eight hours. Besides their eight hours beat duty each day, these men, it must be borne in mind, will have their attendance at court and their drill, &c., as at present. My Superintendents think that one mile of road per man and eight hours of duty at a time would be a fairer allowance, but this would take 273 men a day. As matters stand at present, even with the large supplementary force I give the Municipality, many roads and streets—some of them very important—are left quite without constables, and bitter complaints are consequently of every day occurrence.

Proposed one and a-half mile beat per man for eight hours out of twenty-four.

Increase of patrols from fifteen to twenty.

27.—The patrols, which I would increase from fifteen to twenty, are most useful. They go about, principally at night, noiselessly and by roadsides and by-paths in twos and threes, in order to pounce upon prowling thieves and burglars. They visit frequently places where crime is most rife, and the neighbourhood of taverns and houses suspected of entertaining gamblers. They are very useful in this way, and also in keeping the beat constables on the alert.

Reserve most important.

28.—The reserve is a most indispensable item. It is a reserve of twenty per cent., or one man for every five allowed for daily duty. Government have fully and repeatedly acknowledged its necessity, for they have charged for it for very many years. For every policeman of the large number provided for, and paid by, towns, villages, and individuals, not only have all the man's own expenses direct and incidental been charged for, but twenty per cent. on them all has invariably been charged and paid for for this reserve.* Nor is it a large allowance, considering what it has to cover. It has to cover all the time a man is absent learning his drill or keeping it up; all the time he is sick or on leave; and the half day or sometimes full day a week when he is, or ought to be, off duty. It has in a great measure to meet all emergencies—such as the arrangements necessary on an outbreak of cholera or small-pox, or on the assemblage of great crowds as at races or religious fetes, or, at longer intervals, such heavy calls as the visits of the Prince of Wales and the Duke of Edinburgh entailed. The two great objects however of the reserve are that the men may have a fair allowance of relief and rest, and time for thorough professional instruction.*

To afford relief and rest.

29.—As to relief and rest, I have shewn that the Colombo force have almost none at present; that not only are all the men who ought to be reserves constantly on municipal duty, but that the rest of the Police in Colombo are constantly overworked. So much is this the case that when by chance they have a waking hour during which they are not on duty, they are too tired and depressed for amusements in which men of their age and class are generally glad to join. Out of a fund which the police themselves have made I have supplied them with the implements of various games, such as cricket and croquet, and with an excellent boat on the Colombo lake and another on the Kandy lake. But the games are rarely played, and you never see a policemen in the boats—certainly not in the Colombo boat at all events. The reason you are told is, that the men are too tired to do

* The Forces allowed for the three Municipalities of Colombo, Kandy and Galle include their Reserves, so that as Colombo has on duty daily many more men than its sanctioned Force of 191, that Force has practically no Reserve at all.

anything but sleep or lie down during the few hours they are off duty. As might be expected, the ranks are much thinned by sickness. It is not wonderful that with such a harassing life some of the men take to drink and are eventually ruined, or that many of them while on beat sit down to rest on some door step, and worn out and weak—for they are not too well fed—fall asleep. Then the poor wretches are turned out with their wives and children to endure greater distress—for we dare not in the smallest degree tolerate sleeping on beat, or it would become universal. But how great must be the temptation to men overworked as our men are!

To keep the ranks full.

30.—One great evil that comes of the overworking of the men is the enormous number of vacancies it causes. More than 300 men—that is more than a fifth of the whole force—leave the ranks every year, most of them dismissed for sleeping on duty, or discharged at their own request, or dead – principally, I believe, from the hardship and exposure of their lives. How can any Department maintain even a decent level of excellence with all this continuous loss of training and in-flow of ignorance! Is it to be wondered at that offences are undetected and prosecutions fail, when we have to send on duty raw lads, who a month before were tending their buffaloes in some inland village! It needs but a glance to see how immense a loss of efficiency there is in this one circumstance of over 300 men leaving the force per annum.

To admit of proper professional instruction.

31.—It is not only that the recruit drill is hurried over, and slouching, round-shouldered young men sent out to take charge of beats almost before they know their right hand from their left, but that the higher training and education of the older constables and sergeants has been in a great measure impossible. I have established a fair school at head quarters, and I have drawn up a simple catechism and many clear circulars teaching the principal duties of the Department, but there is no time for the men to learn; and in consequence, sergeants who cannot write are sent in charge of outstations, and constables everywhere are ignorant of duties they should have at their fingers' ends. And this causes unnecessary work and obstructs the real work of the Department, which is the suppression of crime and general care of the comfort and safety of the public: for the constable makes omissions and blunders which lead to endless complaints and correspondence and quickly-forgotten instructions; and the sergeant, employing as his clerk any village lad he can get, misunderstands his written orders and unintentionally submits incorrect accounts, which cause infinite trouble to us and to the Audit Office.

The increase asked for is very moderate.

32.—It has been shewn that 191 police of all ranks were allowed to the Municipality of Colombo in 1871—a number that was only experimental and that rapidly proved insufficient. It has been shewn that the number actually supplied has gone on increasing, and that in 1877 the average supplied to the town, at grievous cost to the men themselves, was certainly 282 men. And I have now earnestly begged that without delay the strength may be raised to 416 men. Nor do I think that this can be considered an immoderate demand, seeing that Calcutta with 686,684 inhabitants has, all told, 3,057 police; and Bombay, with about the same number of inhabitants, has, for municipal duty alone, 1,130 foot police besides a mounted force and a harbour police. Nor is the increase immoderate when compared with the increase, in so many ways, of Colombo. The coffee alone that passes through it every year and is manipulated in the many processes of its receipt and curing and shipment, before the eyes of needy thieves, is now worth from forty to fifty millions of rupees; and the wealth must be great in the long lines of offices, stores, and shops in the Pettah and Fort, which are every night committed tenantless, or almost so, to the care of the police.

33.—Then there is the immense increase in sanitary work due to increasing civilization and to recent severe visitations of cholera and small-pox. There is the system of dog-seizing controlled by the Department, which renders Colombo more free from stray dogs than most towns in the East; there is the registration of servants, also controlled by the police, which has done so much to suppress burglary; and there is the control of prostitution, also principally in the hands of the police. There is farther much police work arising from the new Cattle Trespass Ordinance, and from the new railway line and numerous railway stations. Lastly, it must be remembered that up to this time I have done without two expensive items that no maritime capital in the East is without, namely, mounted police and a harbour police.*

34.—It was my intention to forward as appendices many earnest but vain calls from the Municipal Council and from mercantile firms and private individuals, and from the railway authorities, for additional police, and repeated complaints from successive Superintendents of Police of their total inability to satisfy even pressing and real claims with the police at their disposal. This representation, however, has become of such a length that I refrain from adding to its bulk, but the papers I refer to are ready for production whenever they may be called for.

* A harbour police cannot be dispensed with much longer. The Chamber of Commerce has been calling for it for some time. Now that the roadstead is becoming thronged with ocean steamers, calls for police are daily becoming more numerous and more difficult to be answered. Two cases of mutiny have occurred almost within the last year. In one case the police had to bring on shore a large portion of the mutinous crew; in the other, one man was stabbed and at least one other drowned, before the eyes of the Superintendent of Police, Mr. Le Feuvre.

CEYLON POLICE.

DISTRIBUTION OF.

Report.

35.—I would here point out that the Municipality can afford for its police much more than 62,000 rupees per annum. Indeed it has every year collected much more than it has paid for the police, and spent the surplus otherwise, which seems to me of doubtful legality under section 34 of Ordinance 16 of 1865, the section under which the assessment is levied.

Three Assistant Superintendents needed.

36.—A most pressing want of the Ceylon police is the want of a sufficient number of superior officers.

37.—As already stated, there are at present four Superintendents and nominally three Assistant Superintendents, but one of these Assistants is really Registrar of Servants for the Western Province; another, whose pay is only 1,600 rupees a year, will doubtless immediately be made Registrar of Servants for the Central Province, and the third derives most of his pay and work from his other office of Deputy Fiscal of the Northern Province. The force may therefore be said to have only four superior officers, namely, the Superintendent of the Western Province, the Superintendent of the Central Province, the Superintendent of the Southern Province, and the Superintendent of the Northern, North-Western, and Eastern Provinces, who is also Superintendent in charge of the Pay and Store branches of the Department and Assistant to the Inspector-General. The last officer and the Superintendents of the Western and Central Provinces, especially the Superintendent of the Western Province and the Inspector-General, are all much overworked and have been so for years, and yet their work is by no means satisfactorily compassed, and least of all so in their own estimation. Each of these officers should undoubtedly have an Assistant.

Superintendent, Central Province has charge and duties.

38.—In the case of Major Tranchell, Superintendent of the Central Province, he has charge of an exceedingly rich and valuable district, with an area of 3,345 square miles, and a population of some 500,000. He has a force of 402 all told, distributed in 39 stations. From his most northerly station at Dambulla to his most southerly at Haldummulla the road is 160 miles long, and from his most westerly station at Kadugannawa to his most easterly at Lunugala the road is 118 miles long, and everywhere in the province great mountain ranges have to be crossed. The Superintendent is responsible for the discovery, detection, and conviction of all the crime of his district; he has to ascertain and scrutinize the large mortality from violence and preventible causes; and he has to care for the many helpless immigrants whom want and sickness strew on our roadsides only too thickly. He has much work in carrying out the modern sanitary precautions, and much work in suppressing public gambling and illicit sale of liquors and slaughter of cattle. He has to guard nearly all the large body of convicts in his province, a duty much more onerous, now that we keep every one of our own criminals, than in times but a few years past, when all the worst of them were banished to the Straits Settlements. Lastly, he has to keep in as strict order as may be a large body of armed men, whose clothing and paying, drilling and other training, have all to be supervised by him. Every possible effort has been made by me, by the use of most carefully framed printed forms and short signs, to cut down the correspondence of the Department, and yet the Superintendent of Police of the Central Province himself received from the public and from his Department 14,227 letters and documents during 1877, and himself despatched 10,473 during the same year. How could it be expected with all this work that the Superintendent should inspect each of his stations, a journey of about 800 miles, two or three times a year, and learn their condition and their character in the neighbourhood, as he ought to do! When Mr. Downall complained in the Legislative Council that more European supervision was necessary for the police of one part of the Central Province, I think I was justified in reporting to you as I did in these words:—

"I think that the Uva Police are too few, and that they would be much improved by closer supervision. The Superintendent of Police of the Central Province has not time for more than rare and brief inspections of his several distant stations on the Badulla side. He has thirty-six stations with 437* men scattered over an immense extent of country, abounding in valuable and easily stolen property, and he has just one poorly paid assistant. His predecessor thirty years ago had nine stations in a small area of poor country with sixty-eight men, and he had one assistant too."

There is surely sufficient justification for giving an Assistant to the Superintendent of Police of the Central Province.

Superintendent Western Province his charge and duties.

39.—But if I have made out a case for the Superintendent of the Central Province, much more is there one for the Superintendent of the Western Province, with his far more onerous charge. That it is more onerous, is shewn by Major Tranchell having at his own request been removed from it to the Superintendency of the Central Province, because excessive work had injured his health; nor is Major Tranchell an officer who is afraid of hard work, as other officials have warmly testified. The population of the Central Province is 500,000, that of the Western Province 800,000. The Police of the Central Province is now 402†, that of the Western Province 670. The number of documents received in the police office of the Central Province and issued from it during 1877 was 24,700; the number as regards the police office of the Western Province during the same period

* Some stations have been added and the Public Band called the "Police Band" has gone to the Central Province since this was written.

† Including the Band.

was 26,709. Kandy, an inland town, the capital of the Central Province, has 17,000 inhabitants and little trade; Colombo, the capital of the Western Province, has considerably over 100,000 inhabitants, has great wealth and trade and a busy harbour which is becoming a focus for the shipping of the East. The Superintendent of the Western Province is himself not satisfied with his management of his force, nor am I satisfied with it; but I can rarely find fault, knowing as I do that no one man could do the work satisfactorily. And if the Superintendent's work be on occasion done but slightly, so will be the work of his subordinates. And it would be well if the evil ended only with perfunctory performance of duty now and then. Lately, when recommending the dismissal of two Inspectors for corruption, I used these words:—

"I have to apologize for the delay in submitting this report and for the delay in the Superintendent's enquiry, but the press of daily work which may not be postponed has made it inevitable. Several other equally pressing matters are, so far, vainly awaiting disposal. As I have often reported before, the officers of police are too few to do their work thoroughly. Even as regards the subject of this letter, the Pettah thefts and misbehaviour of the police would have come to light long ago had the Superintendent been able to move frequently among his station-houses instead of being constantly chained to his office. The fact is that neither the Inspector-General nor the Superintendents have time for thorough inspection.

There can be no doubt of the necessity for an Assistant to the Superintendent of the Western Province. A few years ago he *had* an Assistant, but that officer as I have stated became Registrar of Servants in 1873, retaining his old designation of Assistant Superintendent in addition to his new one. His registrarship, if properly attended to, affords sufficient occupation.

Inspector-General and Head Quarter Superintendent: their charges and duties

40.—I have now come to the Assistant to the Inspector-General. One is absolutely necessary. At present I have to indent far more than I like upon the willing assistance of that most zealous and indefatigable officer, Mr. Le Feuvre. But it is unfair to him and to the service to do so, for independently of his charge of the police—187 in number—of the Northern, North-Western, and Eastern Provinces, his charge of the immense head quarter accounts and extensive stores of the Department afford sufficient occupation. It is only a matter of astonishment to me that hitherto there has been so little waste or loss.* But I must have an Assistant who will take more off my hands than Mr. Le Feuvre does, for every day it is becoming harder to get away from my writing table, and yet harder to do the work to my own satisfaction. As it has increased with the Superintendent, so it has increased with me. As a rule, every day throughout the week, from early morning until evening, Sunday included, is consumed in work, and when I travel on inspection, which I am able to do far too seldom, even on a day on which I get over from twenty-five to thirty miles and inspect three or four stations, I have generally to devote five or six hours to the daily correspondence, part of which follows me everywhere. With every possible effort to keep down correspondence my office last year received and despatched 21,162 documents!

41.—It is not only that want of time forces me to do my current work less thoroughly than it should be done, and curtails my inspection of outstations—that duty so important to the efficiency of the force and the satisfaction of the public—but that numberless most important reforms are indefinitely postponed or put off altogether. My note-book has for years been full of projects for the good of the Department—projects which I could certainly and easily carry out if I had only a little leisure.

42.—As for my inspection of outstations, it is most insufficient. I do not find time to inspect more than once in a year and a-half, or once in two years, the important stations at Jaffna, Trincomalee, Batticaloa and Mannar, which are never inspected by a Superintendent, and I cannot inspect even so often as that the more inaccessible stations on the Batticaloa road and in the Badulla and Haputalé districts, which are precisely the stations most complained of.

43.—I would ask for an Assistant on from 4,000 rupees to 5,000 a year. The Assistants to the two Superintendents should have from 3,000 rupees to 4,000 rupees.

Three additional clerks needed.

44. Three additional clerks are needed. There are three in my office; four in the Pay and Store office; five in the Western Province office; and two in the Central Province office. They are not enough. One more clerk on about 600 rupees per annum is urgently needed in my office, and one each in the offices of the Western and Central Provinces. In all these offices the work has increased and is increasing daily—work that cannot possibly be avoided. We are constantly in arrears with the Audit Office and the Treasury, and are quite unable to help it, though I employ some of such few constables as are fit for clerk's work.

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45. I now come to the question of remuneration, and I shall take the case of the sergeants and constables, European and Native, first. I am not disposed to advocate more actual pay for these ranks, because what would be but a small gain to them would be a great charge to the State. It must not be considered from this, however, that I think them

* Leaving stores entirely out of the question, Mr. Le Feuvre in 1877 received and granted receipts for money, amounting to a million and a-quarter rupees.

DISTRIBUTION OF.

Report.

Sergeants and constables should all have free quarters.

Inspectors should get quarters, sufficient horse allowance, and 20 per cent. more pay

well paid. They are certainly not so, looking to local wages and local prices. The native constables have not indeed nearly as good wages as are earned by the coolies at the wharf, and the European constables do not receive enough to enable me to keep the ranks full. What I do advocate, however, is that His Excellency will grant every year, as he has done this year, a liberal sum for the construction of barracks, for it is unfair and cruel that constables should have to pay as much sometimes as four and five rupees a month for miserable lodgings, when they were many years ago promised free quarters.

46.—For the inspectors I would urge that they too in all cases may get houses. In a great many instances I have been able without injustice to convert portion of the men's barracks or other buildings to their use; but many of them have to pay as much as 240 rupees a year as rent, a heavy tax considering that half the inspectors have but 840 rupees a year altogether, that most of them have less than 1,200 rupees a year, and only three of them 1,500 rupees. It is true that they have horse allowance, but this is only 30 rupees a month, while a horse now costs from 40 rupees to 50 rupees a month, so that it causes further loss—so much so that several of my inspectors have begged to decline the allowance, and to be excused keeping a horse, and I have consented. They have to find their own horses, swords, and uniform, which it is most difficult for them to do, and the death of his horse—a not unfrequent occurrence—almost invariably plunges an inspector into debt. The condition and fate of my inspectors have often caused me much uneasiness and sorrow. The mortality among them is excessive, and an extraordinary proportion of them go utterly to ruin. This is mainly I believe from poverty, though also no doubt in a great measure from want of rest and from constant excitement, and also unusual temptation to drinking and to dishonesty. For these officers, who are paid worse than inspectors of police in any other Colony—worse by a great deal than even the native inspectors in India—I would beg for the 20 per cent. increase of pay lately conferred on the senior ranks of the Service. I would beg that as in most cases they cannot avoid keeping horses, the allowance be made sufficient for the purpose, and that quarters however humble be provided for such inspectors as have none at present.

G. W. R. CAMPBELL,
Inspector-General.

APPENDIX I.

STRENGTH, DISTRIBUTION AND COST OF THE CEYLON POLICE IN 1878.

	Superintendents.	Asst. Superintendents.	Inspectors.	Sergeants.	Constables.	Clerks.
Western Province ...	1	1*	12	81	575	13
Central do. ...	1	1†	7	68	405	2
Southern do. ...	1	0	6	27	154	2
Northern do. ...	0	1‡	1	12	96	1
N.-Western do. ...	1§	0	1	7	34 } ...	1
Eastern do. ...	0	0	0	5	30 }	
Total ...	4	3	27	200	1,294	19
					Grand Total	1,547 ‖

Approximate total cost during 1877 ¶ —	500,966	89
Of which, paid by assessment of towns and districts and by private individuals and servants' registration fees —	246,050	78
Cost to General Revenue — Rs.	254,916	11

* Registrar of Servants, to whom belong 2 of the 13 clerks.

† Will also soon become Registrar of Servants of the Central Province.

‡ Police have not half the services of this officer, who is Deputy Fiscal of the Northern Province.

§ This Superintendent is Superintendent also of the Northern and Eastern Provinces, and he is Head Quarter and Pay Superintendent and Assistant to the Inspector General.

‖ Including the Public Band, 30 strong.

¶ Exclusive of cost of Public Band, of food and carriage for prisoners and paupers, &c

CEYLON POLICE.

Distribution of.

Appendix.

DETAILS.

WESTERN PROVINCE.

N.B.—*a.*—All paid by Government.
b.—Half paid by Government.
c.—Part paid by Government.
d.—Nothing paid by Government except for arms, superintendence, housing, and clothing.

Stations.		Superintendents.	Asst. Supts.	Inspectors.	Sergeants.	Constables.
Colombo, comprehending the stations at Kolupitiya, Fort, Galle Face, Grand Pass, Kew, Kotahena, Maradana, Museum, Mutwal, Pettah, Slave Island, Wellawatta		1	1	9	53	428
Out Stations.						
Aranayaka	*a*	..	..	..	1	4
Avisawella	*a*	..	...	..	1	3
Balangoda	*b*	..			1	5
Gankissa	*d*		...	..	1	4
Hanwella	*a*	...	..	...	1	4
Itta Panda	*b*	...	...		...	2
Kalutara North	*d*	...	...	...	1	4
Do. South	*d*			...	1	8
Kegalla	*a*		...	...	1	6
Kotte	*d*	...	...	...	1	4
Mahara	*a*	..		..	1	4
Do. Convict Guard	*a*	..	...	..	3	21
Mawanella	*a*	..	...	...	1	4
Megalkanda	*d*	..	..	..	1	4
Minhewengoda	*d*	...	...	..	1	4
Moratuwa	*d*	..		...	1	8
Mullegoyawa	*d*	...	...	..	1	8
Negombo	*c*			1	1	14
Panadure	*d*	..	..	1	1	6
Pasyala	*c*	..		...	1	4
Pelmadulla	*a*	...	...	..	1	3
Polgahawela	*a*	...	..	...	1	3
Ratnapura	*c*	..	..	1	2	8
Rukwana	*c*		...	..	1	5
Kandukkana	*c*	..	...	..	1	3
Seinawatta	*c*	..		...	1	4
Total		1	1	1	51	555

Details of Colombo Police.		Superintendents.	Asst. Supts.	Inspectors.	Sergeants.	Constables.
1. Municipal Police including reserve	*c*	..	...	4	22	165
2. Guards and Escorts for Jails, Lock-ups, Breakwater Convicts, Powder Magazine, Hospitals.	*a*	..	...	3	21	191
3. For letting out to public		...	...	...	...	6
4. Detectives	*c*	..	...	1	3	25
5. Reserve of the undermentioned out-stations and of those of the E. and N.W. Provinces for drill, leave, sickness, and emergencies at 20 per cent, and those of the N. Province at 10 per cent.	*c*	...	..	1	7	41
Total		..	..	9	53	428

* This is merely nominal. The Municipality get the services of a very much larger number of men taken from the other items under, "Details" as will be seen in Appendix II.

Is to be increased for the Jail Guard immediately.

CENTRAL PROVINCE.

Stations.	Superintendents.	Asst Supdts.	Inspectors.	Sergeants.	Constables.
KANDY, comprehending the Stations at Head Quarters. C. H. Street Barrack, Katugastota, Getambe, Rifle Barrack	1	1	5	35	227
Out Stations.					
Badulla, with Magazine Guard *c a*	...	...	1	4	24
Belgravia *b*	...	...	...	1	6
Cragie Lea *b*	...	...	...	1	6
Dambulla *a*	..	...	...	1	6
Deltota *b*	...	...	...	1	3
Dikoya *b*	...	...	...	1	6
Dolosbagé *b*	...	...	...	1	2
Galagedara *a*	...	...	...	1	6
Gampola *d*	...	...	...	1	10
Ginigathena *b*	...	...	...	1	4
Haldummulla *b*	...	...	...	1	6
Henaldeniya *b*	...	...	...	1	2
Kadugannawa *a*	...	...	...	1	4
Kandy Road Patrol *a*	...	..	...	0	9
Kotmale *d*	..	...	...	2	4
Lemastota *b*	...	..	...	1	4
Lunugala *a*	...	.	...	1	4
Maskeliya *b*	...	...	..	1	2
Matale *d*	...	...	..	1	10
Nawalapitiya *d*	...	.	1	2	8
Nuwara Eliya *d*	...	...	...	1	10
Panwila *a*	..	...	...	1	4
Pussellawa *d*	...	...	...	1	4
Penideniya *a*	..	...		1	6
Peradeniya *a*	...	...	.	0	2
Pundalu-oya *b*	...	..	.	1	2
Ramboda *a*	...	...	...	1	4
Rattota *a*	.	...	...	1	4
Teldeniya *a*	...	..	...	1	4
Tilicoultry *b*	..	...	...	0	2
Uda Pussellawa *b*	..	.	..	1	3
Urugala *a*	...	...	...	0	3
Welimada *a*	..	.	.	1	4
Total...	1	1	7	68	405

Details of Kandy Police.		Inspectors.	Sergeants.	Constables.
1.—Municipal Police, including Reserve	*d*	1	7	62
2.—Guards and escorts for Jails, lock-ups, powder magazine, hospitals	*a*	2	13	72
3.—For letting out to public ...	*d*	...	5	20
4.—Detectives	*d*	1	2	10
5.—Reserve of the undermentioned out stations for drill, leave, sickness, and emergencies at 20 per cent.	*c*	1	6	35
Band	*b*	...	2	28
Total...		5	35	227

SOUTHERN PROVINCE.

Stations.	Superintendents.	Asst Supdts.	Inspectors.	Sergeants.	Constables.
GALLE comprehending the Head Quarters Fort ... Majella ..	1	..	4	19	107
Out Stations.					
Balapitiya *a*	...	..	..	1	4
Bentota *d*	...	...	...	1	5
Hambantota *a*	...	...	1	4	25
Matara *d*	...	...	1	1	10
Weligama *d*	...	...	..	1	8
Total...	1	...	6	27	159

Details of Kandy Police.		Inspectors.	Sergeants.	Constables.
1.—Municipal Police, including reserve	*d*	1½	5	32
2.—Guards and escorts for jails, lock-ups, powder magazine hospitals	*d*		11	54
3.—For hiring out to public ...	*d*			6
4.—Detectives		2½	2	6
5.—Reserves of the undermentioned out stations for drill, leave, sickness, and emergencies at 20 per cent.	*c*		1	9
Total...		4	19	107

CEYLON POLICE.

DISTRIBUTION OF.

Appendix.

NORTHERN PROVINCE.

Stations.	Superintendents.	Asst. Supdts.	Inspectors.	Sergeants.	Constables.	
JAFFNA, comprehending the Head Quarters ... Fort ... Pettah ... c	...	1	1	8	65	
Out Stations.						
Mannar ... b	...	..	...	2	17	
Chavakachcheri ... d	...	...	...	...	...	Placing of men at this Station deferred for the present.
Pesalai ... a	...	...	...	1	6	Do. do. They remain in the mean time in Jaffna.
Point Pedro ... d	...		...	1	8	
Total...	...	1	1	12	96	

NORTH-WESTERN PROVINCE.

KURUNEGALA, comprehending the Head Quarters, Jail, and Kachcheri guard c	..	..	1	5	25	
Puttalam ... a	...	..	...	2	9	Will be sent out on completion of the building.
Total...	...	...	1	7	34	

EASTERN PROVINCE.

BATTICALOE ... c	...	...	...	1	10
Do. Magazine	...	...	...	...	2
Trincomalee ... c	...	..	...	4	18
Total...	..	..	..	5	30

APPENDIX II.

MUNICIPAL POLICE, COLOMBO.

N.B.—The "Roman" figures are the sanctioned allowance of Police for the Municipality.

The *Script* figures are the numbers by which it was absolutely necessary to supplement the sanctioned allowance during 1877, by taking men from the Government Reserve and from the Reserve mentioned in item 11 below, to the great distress and demoralization of the whole Colombo Force.

The **Egyptian** figures are the numbers by which it is most necessary that the Force should at once be still more increased.

Items.	Duties.	Inspectors.	Sergeants.	Constables.	Total.	
1.	At the 12 Stations in Colombo—See details on next page	3 *5* **1**	12 *0* **0**	50 *0* **18**	65 *5* **19**	87
2.	On beat by day and night on the 91 miles of roads and streets ...	0 *0* **0**	0 *0* **0**	32 *88* **60**	32 *88* **60**	180
3.	Patrols for inspection and detection...	0 **0**	2 **8**	13 **0**	15 **8**	23
4.	On duty with Sanitary Officers and Municipal Inspectors	0	0	10	10	
5.	Drill instructors, orderlies or peons, lamp-lighters, letter carriers, &c. ..	0 **0**	1 **4**	8 **0**	9 **4**	13
6.	Keeping books and other clerical work and keeping stores, &c. . ..	0 **0**	1 **4**	4 **0**	5 **4**	9
7.	On duty at Courts	0 **0**	1 **3**	5 **0**	6 **3**	9
8.	On Vaccination duty and at small-pox Hospital	0	0	6	6	
9.	Seizing and killing dogs	0 **0**	0 **0**	2 **4**	2 **4**	6
10.	Serving processes	0	0	3	3	
11.	Usual reserve at 20 per cent. for training, drill, leave, sickness, and rest...	1 **0**	5 **3**	32 **29**	38 **32**	70
12.	Total of "Roman figures," *i. e.*, Force sanctioned for Municipality ...	4	22	165	191	
13.	Total of "Roman" and *Script* figures, *i. e.*, Force actually supplied during 1878	7	22	253	282	
14.	Total of "Roman," *Script*, and **Egyptian** figures, *i. e.*, of the Force absolutely necessary now ...	8	44	364	416	
15.	Augmentation required by last item...	4	22	199	225	

CEYLON POLICE.

DISTRIBUTION OF.

Appendix

COLOMBO STATIONS.

N.B.—Here the "Roman," *Script*, and **Egyptian** figures have the same meaning respectively as the "Roman," *Script*, and **Egyptian** figures on the foregoing Statement.

Stations	Police Officer: Inspectors.	Sergeants.	Constables.	
1.—Head Quarters, Maradana ...	1	2	11	
	0	0	3	
2.—Fort	1	2	6	
	0	0	2	
3.—Galle Face	0	0	1	
	0	0	1	
4.—Grandpass	1	1	4	
	0	0	2	
5.—Kew	1	1	3	
	0	0	1	
6.—Kotahena	1	2	4	
	0	0	2	
7.—Kollupitiya	1	1	4	
	0	0	2	
8.—Museum	0	0	2	
9.—Pettah	1	1	6	
	0	0	2	
10.—Modara ..	0	1	4	
	0	0	2	
11.—Slave Island . ..	0	0	2	
12.—Wellawatta	0	1	3	
	0	0	1	
Total of "Roman" figures, *i.e.*, force sanctioned for Municipality	3	12	50	
Total of "Roman" and *Script* figures, *i.e.*, force actually supplied during 1877 ...	6	12	50	
Total of "Roman," *Script*, and **Egyptian** figures, *i.e.*, of force absolutely necessary now	7	12	68	
Augmentation required by last item ...	4	0	18	

Remarks.

The men at these stations in addition to keeping order in their neighbourhood furnish small reserves for the innumerable calls constantly being made on the Police. They receive complaints and accused persons, make enquiries and investigations, take care of prisoners and stolen property, and of arms and accoutrements, barracks, etc. They also have to look after prostitutes, servants, sanitary matters, including cases of cholera and small-pox; weights and measures; Butchers' regulations, &c.

G. W. R. CAMPBELL,
Inspector-General.

XXII.

RETURN OF LICENSED HOTELS.

RETURN to an ORDER of the LEGISLATIVE COUNCIL of CEYLON, dated 12th December, 1877

"That a Return be furnished shewing the number and names of the Licensed Hotels in the different towns of the Island, accompanied by a statement in each case as to whether the conditions under which alone they could be established under Ordinance No. 7 of 1873 have been strictly complied with."

(*The Hon. Sir M. Coomara Swamy.*)

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

RETURN of the Number and Names of the Licensed Hotels in the different Towns of the Island.

Number and Name of Hotel.	Name of Proprietor.	Situation.	Remarks.
Western Province			
1877.			
1. Ferry Hotel ...	A. M. Wikkramasinghe ...	No 90, Maiwall	The conditions under which Hotels could be established under Ordinance No. 7 of 1873 have been complied with.
2. Passengers' Union Hotel ..	G. D Hendrick Appuhami ..	45, 1st Division, Maradana	do.
3 Metropolitan Hotel ..	E. J Rodrigoe	34, Keyser-street, Pettah	do.
4 Nil ..	H Francisco Fernando ...	14, Moratuwila in Salpitikorale	do.
5 Serapis Hotel ..	N A Perera ..	50, Kotchikada, Colombo ..	do.
6. Albion ..	J. J. Andepulle ..	41, Jampettah-street	do
7 Queen's Hotel	Mr E R. Whitfield ...	14, Hospital-street, Fort	do.
8. Union Hotel ..	P Wanniappa	101, Wolfendahl-street	do.
9. London Hotel	Mr E. R Whitfield ..	61, 1st Division, Maradana	do.
10. Lorne Hotel ..	B Christian Appu	5, 1st Cross-street, Pettah ..	do.
11. Licensed Hotel ..	K D Johanis	58, Malay-street	do.
12. London Hotel	Mr. S. Jarvis ..	24, Hospital-street	do.
13. Lanka Hotel ..	G. P Perera ..	25, 3rd Cross-street, Pettah	do
14 Nil ..	H H Fernando	Kongalawatta at Dehiwela	do.
15 Crown Hotel ..	B. T Perera .	No 7, Chatham-street	do.
16. Courts Hotel	Simon Martis	7, Smith-street, New Bazaar	do.
17. Imperial Hotel ...	D R. Bawa Pulle ..	81, 4th Cross-street, Pettah .	do.
18 Town Hall Hotel	D. Mathes Seypath ..	28, 5th Cross-street, Pettah ..	do.
19. Galle Face Hotel	Mr S. D. Ephraums for Proprietors ...	Galle Face	do.
20. Mount Lavina Hotel.	Messrs J. Maitland & J. R. Bell	Mount Lavinia, Galkissa	do.
21. Albion Hotel .	Cornelis Perera .	No. 73, Dam-street	do.
22 Nil	Mr J W. Home	27, York-street, Fort .	do.
23 Colombo Oriental Hotel ..	M Esan Perera	2, Front-street, Pettah ..	do.
24 H. A Fernando's Hotel .	H. A. Fernando ..	38, Chatham-street, Fort	do.
25. Colombo Hotels' Company, Limited ...	Mr. J. C. Wheeler for Proprietors	Prince-street, Fort	do.
26. Sea View Hotel	N. Fernando	No. 20, Upper Chatham-street, Fort	do.
27 Railway Passengers' Hotel	Marm Felsinger	17, Kollupitiya .	do.
28 Junction Hotel .	J. A. Paul Perera	50, Slave Island, Malay-street	do.
29. Licensed Hotel ..	K D. C. Seneviratne ..	18, Glenie-street, Slave Island	do.
30. Nil . .	Harmanis Fernando ...	815, Welapura Kalutara ...	do
1878			
1. Union Hotel	P. Wanniappa	101, Wolfendahl-street ...	do.
2. Passengers' Union Hotel ...	G. D Hendrick Appuhami ..	45, 1st Division, Maradana ...	do.
3. Galle Face Hotel	Mr. G. M Nisbet for Proprietors	232, Galle Face	do.
4. Mount Lavinia Grand Hotel	C. H. Link for Proprietors ...	Mount Lavinia ...	do.
5. Hotels' Company, Limited .	J. C. Wheeler do. ..	No 10, Prince-street, Fort ..	do.
6. Metropolitan Hotel	E. J. Rodrigoe	34, Keyser-street, Pettah	do.
7. London Hotel ...	William Jarvis	24, Hospital-street, Fort ..	do
8. Junction Hotel ..	Paul Perera	50, Malay-street ..	do.
9. London Hotel ..	Mrs. C. F Whitfield ...	61, 1st division, Maradana	do.
10. Serapis Hotel ..	R. Gabriel Appu	50, Kotchikada-street, Colombo	do.
11 Nil	H. A Fernando	38, Chatham-street ..	do.
12. Ethiopian Hotel ..	Johannes P. Abeysekara ...	62, 2nd Division, Maradana	do.
13. The Corner . ..	H. Fernando	815, Welapura Kalutara ...	do.
Southern Province.			
1. Nil . .	Don Karolis de Silva of Galle ...	48, at Leyn Baan .	do.
2. Oriental Hotel ...	Mr. Thomas Munson Barker ...	Church and Middle-street, Galle Fort	do.
3. Nil	Madame Emma Conlomb ...	No. 57, Pedlar-street, Galle Fort ..	do.
4. Hotel de l'Univers, late Eglinton Hotel .	Madame Annen Marguerite Duclot	Galle Fort ..	do.
5. Sea View Hotel	Mrs. H. M. Ephraums ..	No. 27, Church-street, Galle ..	do.
Central Province.			
Kandy.			
1. Queen's Hotel .	W. E. Edema	— ..	do.
2. Native Hotel ...	D. De Silva	No. 249, Colombo-street ...	do.
3. Nil	D C. De Silva	Gampola	do.
4. Nil	Juanis Perera	Kadugannawa ...	do.
5. Nil	D. J. Jeronimus	Nawalapitiya	do.
North-Western Province	Nil.	—	—
Eastern Province ...	do.	—	—
North-Central Province	do.	—	—
Northern Province ...	do.	—	—

XXIII.

VILLAGE TRIBUNALS.

A STATEMENT

SHEWING

THE DISTRICTS, PRESIDENTS, THEIR SALARIES AND STAFFS, AND THE NUMBER AND THE NATURE OF THE CASES DISPOSED OF DURING THE YEAR 1877.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

RETURN shewing the Names of Districts, Presidents, &c., and the Number of Cases instituted, decided, and in Appeal, under "The Village Communities Ordinance," throughout the Island, for the year 1877.

Districts	Presidents	Salaries	Staff.	Cost of Staff.	Institutions — Civil.	Institutions — Criminal	Annulable Settlements under section 23.	Breaches of V. C. Rules	Irrigation	Decisions. Civil — Money	Civil — Land.	Civil — By Consent.	Criminal — Assault.	Criminal — Theft	Criminal — Malicious Injury.	Criminal — Cattle Trespass.	Criminal — Maintenance	Appeals. To Government Agent. — Confirmed.	To Government Agent. — Set aside.	From G. A. to Governor and Ex Council — Confirmed.	From G. A. to Governor and Ex Council — Set aside.
1877.																					
Western Province																					
Mutkuru Korale South.																					
Gampaha ..		Rs		Rs																	
Kanuwana ..	C. P. Dias Bandaranayaka Mudaliyar	2,000	4 Native Writers, 4 Messengers	1440	1131	1451	468	400	17	1107	19	4	525	255	235	1	...	14	3	...	...
Ambatalenpahala																					
Wattala ..																					
Hewagam Korale																					
Hanwella ...																					
Nawagamuwa ..	J. M. P. Fernando, Mudaliyar	1,500	2 Native Writers, 2 Messengers	720	438	556	29	272	13	374	10	.	112	126	17	36	5	15	...	..	..
Mulleriyawa ...																					
Adikari and Meda Pattus of the Syane Korale																					
Matara ..	D. A. B. Dias Bandaranayaka	1,500	do.	720	1406	995	485	495	4	1179	15	1	206	170	4	4	10	6		...	...
Henaratgoda ..																					
Salpiti Korale.																					
Gangodawila ..	D. A. A. Wijesinha, Mudaliyar ...	1,500	1 Native Writer, 1 Messenger	360	577	813	132	253	7	447	5	74	205	179	9	12	9	11	...	...	...
Ratnapura, Kuruwita Korale																					
Higgashena .																					
Mimana ...	L. F. Mapitigama	1,500	do.	360	834	762	99	184	18	579	12	99	65	192	19	100	10	24	12	...	...
Kiriella ..																					
Kegalla.																					
Galboda and Kinigoda Korales and Three Korales and Lower Bulatgama ..	C. B. Nugawela .. / J. C. Molamure	1,500 each	2 Native Writers, 2 Messengers	720	2901	2813	702	807	32	2557	184	106	391	582	85	728	100	42	9	...	...
Negombo.																					
Dunagaha ..	J. L. Dassenaike	1,500	do.	720	1073	773	234	125	..	1124	6	...	206	308	8	106	14	33	4	3	...
Minuwangoda ...																					
North-Western Province																					
Wé-ndawili Hatpattu ...	James Henry Halpe ..	800	1 Clerk and 2 Messengers	396	2347	1822	2086	293	...	2656	23	..	155	113	22	1220	28	34	15	...	...
Wanni Hatpattu ...	Dodanwala Banda .	800		396	2032	431	420	196	..	1795	24	240	90	28	10	..	37	18	7	..	...
Dewamedi Hatpattu ..	C. H. Moonamalle ...	800		480	2058	472	393	113	...	1787	27	709	54	69	16	96	32	3	8	...	...
Katugampola Hatpattu ...	S. E. Herat	800		480	1355	698	371	37	4	628	...	...	80	61	16	140	12	3	3	...	..
Kiriyala Hatpattu ...	R. B. W. Moonamalle ...	800		480	409	241	110	66	...	383	7	223	13	16	15	103	8	2	2	...	..
Demala Hatpattu ...	R. A. H. Banda ..	800	2 Messengers	216	791	167	17	54	1	199	1	110	16	10	...	41	3	6	...	..	...

Southern Province.																						
Bentota.																						
Wallalawiti Korale ..	Arthur Jayawardena, acting	1,100 and Rs. 360 travelling allowance.	1 Clerk, 2 Peons	600	2002	1111	2021	313	Nil	1542	27	1620	240	130	16	4	12	40	18	3	..
Gangabada Pattu ...	T. F. Tillekeratne ..	do	do.	600	680	492	82	110	2	599	198	2	184	109	10	...	23	23	5	...	...
Weligam Korale ...	D. A. Tillekeratne ..	do	2 Clerks, 2 Peons	750*	1118	730	292	84	47	1121	17	19	319	237	11	...	23	73	12	4	...
Morowak Korale ...	A. R. Seneviratne ...	840 and Rs. 300 travelling allowance	1 Clerk, 1 Peon	600	579	276	494	77	7	575	124	1	79	78	9	...	19	24	1	1	...
Wellaboda Pattu ...	T. D. C. Perera ..	1,000 and Rs. 360 travelling allowance.	1 Clerk, 2 Peons	600	1432	927	257	479	2	1298	88	..	227	263	67	13	22	115	6	2	...
Eastern Province.																						
Batticaloa South ...	J. Sommata, Mudaliyar ...	Rs. 1,200 per annum.	4 Clerks	600	4757	1167	1442	8	..	3302	29	2104	137	114	13	74	225	8	6	..	.
Batticaloa North ...	Mr. E. Crowther ...	do	3 Clerks	420	206	33	13	...	...	56	...	19	3	2	...	4	5	...	...	...	..
Kaddukkulam	V. C. Canagasby ..	Rs. 1,000 per annum	3 Clerks, 3 and 3 Messengers.	810	487	199	79	132	19	275	6	13	21	10	5	7	5	1	...	...	...
Koddiyar					812	190	128	23	27	356	...	19	56	13	9	...	2	..	2	...	...
Tambalegam					592	187	31	79	10	467	.	9	34	16	20	...	4	3	1	...	..
Central Province.																						
Uda Dumbara and ...	T. B. Panabokke ..	Rs. 1,698 and 48 cents	3 Peons and 2 Clerks	910	1214	1216	143	588	13	982	27	104	197	132	96	196	25	3	...	...	...
Pata Dumbara					1799	1977	170	748	18	1760	30	98	182	126	223	142	72	48	1	..	...
Udunuwara	Kolobekkaduwwe Kudà Banda ...	Rs. 1,320	2 Clerks and 2 Peons	690	780	1149	416	294	57	330	77	216	136	102	124	110	109	57	11	...	..
Walapane and	T. B. Madugalla ..	do.	do.	390	305	389	212	106	..	289	9	...	67	65	42	100	40	1	...	...	...
Uda Hewaheta					643	515	286	238	3	610	3	..	53	101	18	138	21	6	...	...	..
Kotmale	Welegedara D. Navaratne Mudiyanselage Dingiri Banda ..	do.	1 Clerk and 2 Peons	660	310	428	168	224	...	290	9	...	134	42	23	9	7	..	.	...	..
Matale North	W. A. Tullewe ...	Rs. 1,200	do.	540	671	780	405	247	...	363	84	54	167	96	40	293	7	4	4	..	...
Udukinda	H. E. Dambawinne ..	Rs. 1,219 and 92 cents	2 Messengers	300	332	541	245	122	12	198	6	...	53	24	22	14	19	2	...	...	...
North-Central Province.																					
Western Division ...	R. D. M. Punchirala ...	Rs. 1,200	1 Native Writer and 2 Peons	360	461	338	72	262	4	358	11	2	18	4	1	13	2	22	7	...	..
Southern Division ...	T. S. N. W. M. Tikiri Banda	do.	do.	360	542	302	105	87	...	345	9	...	41	14	1	65	8	8	1	...	..
Eastern Division ...	T. K. N. Loku Banda .	do.	do.	360	257	222	96	83	2	219	11	42	30	4	73	40	19	3	...	...	...
Megoda Pattu of Tamankaduwa	M. Mudiyanse ..	Rs. 200†	Nil	Nil	7	41	...	24	4	7	...	...	6	1	1	3	2	...	...	...	...
Egoda Pattu of Tamankaduwa	A. L. Karidu Mira ...	Rs. 120‡	Nil	Nil	136	...	...	...	...	136	...	...	...	...	...	...	...	...	..	...	...

* 150 rupees of this paid out of the Fine Fund.
† Receives this allowance from 1st October, 1876. He also discharges the duties of Ratemahatmaya of Tamankaduwa, for which a salary of 720 rupees is allowed.
‡ Receives an annual salary of 180 rupees from the office of Udaiyar.

XXIV.

CROWN TIMBER BILL.

REPORT of a SUB-COMMITTEE of the LEGISLATIVE COUNCIL appointed to report upon the Bill, "An Ordinance to amend the law relating to the felling, destruction, and removal of timber grown on Crown land."

Ordered by the Legislative Council to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

EXTRACT from the MINUTES of a meeting of the LEGISLATIVE COUNCIL held at the Council Chamber on Wednesday, the 2nd October, 1878.

Resolved.—That the following gentlemen be appointed a Sub-Committee to report upon the Bill intituled :

"An Ordinance to amend the law relating to the felling, destruction, and removal of timber grown on Crown Land."

The Hon. R. CAYLEY, Queen's Advocate.

The Hon. F. R. SAUNDERS, Government Agent, Western Province.

The Hon. Lt.-Col. A. B. FYERS, R.E., Surveyor-General.

The Hon. J. VAN LANGENBERG,
The Hon. J. P. OBEYESEKARA,
The Hon. G. A. TALBOT,
} Unofficial Members.

CROWN TIMBER ORDINANCE.

REPORT.

The Sub-Committee having considered the draft of "*An Ordinance to amend the law relating to the felling, destruction, and removal of Timber grown on Crown Land,*" have the honor to submit the following report:—

Section 2.—They recommend the omission of the words "as to the repeal thereby of any former Ordinance or law and" from the sixth line of this section.

They consider it desirable to introduce after the second section the following, which should form the third section of the Ordinance: "The expression 'Government Agent' shall include any Assistant to such Government Agent," and that the numbers of the third and following sections be altered into fourth, &c., so as to accord with this addition; and also that the words "or Assistant to the Government Agent" and "or Assistant" be omitted throughout the Ordinance wherever they occur.

Section 3.—They recommend that the letter and words "A hereto annexed" be omitted from the tenth line of this section.

Section 4.—They suggest that the words "or destroy" be substituted for "or remove" after the word "fell," and that the words "remove any" be inserted between the words "or" and "timber" in line one; that the words "from time to time" be erased from lines eleven and twelve; that "such" be substituted for "the" in line twelve before, and the words "when issuing the license" be added after the words "Government Agent," and that, in the last line but one the words "to extend the time within which the trees or timber are to be felled or removed or" be inserted between the words "Agent" and "to."

Section 5.—The Sub-Committee recommend the addition of the following words and proviso (which latter has been taken and incorporated from the 9th section) at the end of this section: "together with a copy also signed by him of the said list Provided however that it shall be lawful for the Government Agent granting any such license to state in writing in or upon the same that the holder thereof shall not be required to furnish such headman with such list as aforesaid; and in such case such list shall be dispensed with.

Section 6.—They recommend that the words "trees or" be omitted wherever they occur in this section; that the word "said" in line three be omitted before the word "headman," and that the words "to whom the license is addressed, or to some other person to be appointed in that behalf by the Government Agent granting the license," be added next after it; that the words "or other person aforesaid" be inserted next after the word "headman" in lines four and eight respectively; that in line five the words "timber has" be substituted for "trees have" and, in line six, "its" for "their;" and that in line seven the words "and to stamp or otherwise sufficiently mark each log intended to be removed" be added next after the letter "C." They suggest the addition, at the end of this clause, of the following proviso taken out of the 9th section:—"Provided, however, that it shall be lawful for the Government Agent granting such license to state in writing thereon that the holder thereof shall not be required to give any such notice of removal or obtain any such permit as aforesaid; and in such case such notice and permit shall be dispensed with."

Section 7.—The Sub-Committee recommend the following alterations in this section:—

That in line one "or" be inserted between "fell" and "destroy." The words "or remove" be omitted before the words "any trees," and the words "or remove any timber" be supplied after the word "timber."

In line three that the article "a" be substituted for "such" before the word "license," and the words "as aforesaid" be supplied after it; and that the words "on which a license has been granted to him," which occur in this and the next line, be omitted and the word "thereof" substituted for them.

In line five that the word "proper" be omitted before, and the words "to whom the license is addressed" be added after, the word "headman."

In line six that "person" be substituted for "individual."

In line eight that the words "except where such list is dispensed with under section six" be added next after the word "list."

In line ten that the word "other" be inserted before the word "description."

In line twelve that the words "or extended as aforesaid" be added next after the word "therein."

In line thirteen the words "trees or" be omitted.

In line fourteen that the words "or other person appointed in that behalf by the Government Agent" be added next after the word "headman."

CROWN TIMBER ORDINANCE.

REPORT

In line sixteen that the words "or other person so appointed (except when such notice and permit are dispensed with under section 7)" be added next after the word "headman."

In lines seventeen and eighteen "that the words" by such "headman or" be omitted, and that the word "headman" be inserted between the words "Justice of the Peace" and "or" in line eighteen.

In line twenty that the words "shall remove any timber felled on Crown land without the same having been stamped or marked as required by section 7, or" be inserted between the words "or" and "if."

Sections 8 and 9.—The essentials provisions of these two sections having been distributed between and embodied in sections 6, 7, and 8 (in their amended numerical order) the Sub-Committee suggest that they be expunged from the Ordinance.

Section 10.—They recommend the following verbal alterations in this section :—

In line two the substitution of the words "any timber that" for "any trees or timber which."

In lines seven, eight, eleven, fourteen, and twenty, the deletion of the words "trees or."

In line 8 that the words "are or" be cancelled.

In line 9 that the word "Belong" be read "belongs."

In line 21 that the words "have or" be omitted, and "has" substituted for "have" at the end of it ; and the addition, at the end of this section, of the following proviso: "Provided also that it shall be lawful for the Governor with the advice of the Executive Council, by proclamation to be, by him from time to time for that purpose issued and published in the *Government Gazette*, to exempt any particular district to be mentioned in such proclamation from the operation of this section, and any such proclamation, with the like advice, to revoke, alter or amend.

Mr. Talbot moved that the 10th section be omitted altogether, and the Sub-Committee divided with the following result :—

Ayes.	*Noes.*
Mr. Talbot,	The Surveyor-General,
Mr. Obeyesekara.	The Government Agent, Western Province.
	The Queen's Advocate.

Section 11. They recommend that in line 15, the word "appointed" be displaced by the word "extended."

Section 14.—During the consideration of this section Mr. Obeyesekara moved "that the last eleven lines of section 14 be omitted," and on a division the following was the result :—

Ayes.	*Noes.*
Mr. Obeyesekara,	Mr. VanLangenberg,
Mr. Talbot.	The Surveyor-General,
	The Queen's Advocate.

Section 18.—The Sub-Committee recommend the introduction of the marginal heading "Power of Governor to reserve forest land" opposite the proviso commencing at the fourth line ; the omission of the concluding sentence from the words "and any person" downwards to the end of this section, and the addition, next after the word "aforesaid" in line twelve, of the following: "and any such proclamation to revoke, alter or amend. All tracts of Crown land heretofore set apart and defined as reserved forest land by any proclamation issued under the said Ordinance No. 24 of 1848, shall continue to be so set apart and defined in terms of such proclamation until such proclamation shall be revoked."

They recommend the addition of the following new clause, which shall form the last section of the Ordinance :-

18.—Any person who shall cut or remove any wood of any description in or from any Crown land which has been set apart and defined as reserved forest land by any proclamation issued under the next preceding section or under the said Ordinance No. 24 of 1848 in contravention of any such proclamation, shall be guilty of an offence and liable to the punishment prescribed by section eight for felling trees on Crown land without a license.

The Sub-Committee finally suggest the omission from Schedule A. of certain items which will appear on reference to the amended draft annexed to this, and in doing so have been influenced partly by the fact that the trees represented by them are not sufficiently valuable to be worth preservation and partly by a conviction that their retention in the Schedule will be likely to impair the facilities which the agricultural classes of the people at present enjoy for protecting their crops by means of fences.

It has, however, been thought advisable that this Schedule as amended should be forwarded to the different Government Agents for their opinion ; and the Chairman accordingly addressed a letter to each of the Government Agents on the subject, enclosing a copy of the amended Schedule.

RICHARD CAYLEY,
F. R. SAUNDERS,
A. B. FYERS, LIEUT-COL. R.E.,
J. VANLANGENBERG,
J. P. OBEYESEKARA,
G. A. TALBOT.

Legislative Council Chamber,
Colombo, 22nd October, 1878.

XXV.

REPORT

THE INSCRIPTIONS

HAMBANTOTA DISTRICT.

BY DR E. MULLER.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

REPORT

ON THE

INSCRIPTIONS IN THE HAMBANTOTA DISTRICT.

THE only two parts of the Southern Province, which show traces of ancient civilization are the village of Dondra near Matara, and the district that extends about 70 miles to the east of Tangalla. There are ruins scattered all over this district, but we have no great centre here like Anurâdhapura and Pollanaruwa, and often it is very difficult to find the inscriptions, especially at the present moment, when all is overgrown with jungle owing to the continual rain during the last year.

By far the greater part of the inscriptions are flat on the rock, so that it is impossible to take photographs of them, and the only way left is a paper impression, which of course can only be done in dry weather.

Most of these inscriptions which are flat on the rock are very much effaced by their being exposed to the rain, so that it is sometimes impossible to make out the sense with anything like certainty.

The first temple which I reached in coming from Tangalla is the Mudgirigala temple celebrated by its collection of ancient manuscripts (Upham, Sacred and Historical Books of Ceylon, p. III., 33.) It is situated on the top of a steep rock 4 miles from Udukirivila tank. There are some so-called cave inscriptions at this temple similar to those at Wessagiri Anurâdhapura (Goldschmidt's Report No. XI., p. 4) and in almost perfect preservation. The following are the transcripts :—

1) At the bottom of the rock just behind the priest's house,

.... Bati Cadatisaha lene.

Cave of Cadatisa, brother of .. ..

2) In the jungle on the left side from the steps that lead to the temple,

[Paru] makaha Banaka bati upa-akaha lene agata an [agata ca] tudiça cagaca dine.

The cave of the lay-devotee, the brother of the brahmin Banaka, is given to the priesthood in the four quarters, present and absent.

3) Bisogala near Gowagala, ½ mile from the temple.

Parumaka Çumana puta Parumakaha Tisa lene Mahadasaka nima agata anagata catudi a, naga-a padi [ne].

The cave of the brahmin Tisa, son of the brahmin Sumana called Mahadasaka, is given to the priesthood of the four quarters present and absent.

It is interesting in these inscriptions to observe the old form of the Gen. Sing., in ca (corresponding to the Pâli ssa, Sanskrit sya) used contemporaneously with the more modern one in ha, for instance cagaca compared with parumakaha in No. 3. This modern form is universally used as early as the time of king Gajabâhu Gâmini (B.C. 123) as we see from the very first words of his inscription at the Ruwanwaeli dagoba, Anuradhapura : — Wahaba rajaha mannmaraka Tisa maharajaha puta maharaja Gajabahu Gamini Abaya : King Gajabâhu Gamini Abhaya, son of King Tisa, grandson of King Wahaba.

There are two more inscriptions, one on the steps that lead to the temple about half way, the other one at the bottom of a small tank close to the Wihara : but they are so much effaced that I cannot attempt a translation. Close to the jungle-road that leads from Udukiriwila to Ranna, I found two wihâras containing fragments of old rock inscriptions. The first in coming from Udukiriwila is called Naygalwihâra and is situated on the left side on a hill. The inscription although in square characters, shews a first step of transition to the round form, inasmuch as the vowel "i" is represented by a curve (˜) over the consonant ; unfortunately this, as well as the inscription at Kahagal-wihâra on the right side of the road, is so much weather-worn that I gave up the hope of deciphering it.

A little off the same road at Attanavala wihâra there is a pillar inscription of more modern date, of which one side is tolerably well preserved. It bears the name of a king Siri Sang Bo, but as there are so many of this name (*cf.* Goldschmidt's Report XI., p. 7) it

INSCRIPTIONS IN THE HAMBANTOTA DISTRICT.

REPORT.

is difficult to find the exact date of the inscription. At any rate it must belong to the tenth or eleventh century." I give the transcript as far as it could be made out:—

1. Siriwat	9. muwanat ag me
2. apiriyat	10. [hesu]n wû
3. ——nasu —	11. rana — ma [Si]r[i]sa—
4. rahi tâ (?)	12. nga bo maharad hu
5. k [aeta] kula pá —	13. urehi dâ kaeta [ku] --
6. mil [i] kala O[kâ]—	14. la kot w [i] yat da —
7. was parapure —	15. ham niyae kala
8. n bat rad puru —	.. ..

The glorious endless .... who was an object of respect to the Kshatriya tribe, being descended from the unbroken line of Ikshwâku, being born in the womb of the chief queen to his Majesty the King, son of king Siri Sanga Bo, the pinnacle of the Kshatriya caste, the sage who learned the doctrine.....

Nearly the same words, only connected with other names, occur in the inscription of Aepâ Mahinda at Mayilagastota, eight miles from Tissamahârâma, which is now in the Colombo Museum, and of which a part has been published in Dr. Goldschmidt's Report No. XI., p. 9. I give here one of the following parts, as unfortunately some portions of the rock are too much effaced as to allow a translation of the whole inscription :—

A 32 ... .. d[u]n [u] 33 [madul]u melâ[t] 34 [eri] rad kol [kae] m [i] B1 yan no 2 wadnâ i 3 sâ gam 4 gôn rada 5 bara bili 6 bun gael 7 miwun wae 8 riyan no 9 gannâ 10 isâ mangi 11 wa piyagi 12 wa no wad 13 nâ isû.

The officers of the royal family shall not enter the place belonging to the priesthood, enemies shall not take away the villages, the cattle, the royal taxes, the revenue .... the cart buffaloes, travellers, and pilgrims (?) shall not enter.

The same contents are to be found in the inscription at Mahâkalattewa now in the Colombo Museum, (Goldschmidt's Report XI., 8.) and in a short inscription found at Kudawaewa near Ralapanna (N.-W. P.), which runs as follows : —

Sri nd kol kaemiyan dunumandalan no wadnâ isâ.

The term dunumandala, a very common term for priest, is probably the same as the modern tunmadulla, the robe of a priest which covers and ornaments three parts of the body.

For the sake of comparison I give here the transcripts of two other hitherto unpublished inscriptions of the same time, which do not belong to the Southern Province.

One of them is now in the Colombo Museum and was taken from Abhayawaewa (now called by its Tamil name Bassawa Kulam) near Anurâdhapura. It runs as follows:—

A. 1 Siri sang 2 boy ma purmu 3 [k] â dasam 4 wanne Maendi di 5 nae pura teles 6 wak dawas Ba 7 yaê waew mâwal 8 karwanukot wat 9 himiyan wahan 10 se wadâleyi 11 n waewae satar ka 12 nae satar pahanak 13 hinwâ mê waew 14 hi mas maerû 15 kenekun raekae 16 genae no pae 17 twu wa nuwar 18 laddâ atîn da 19 sa hamk ran ma 20 [haweher piri] 21 wahana mâdae bi 22 yâ tamâ ne we 23 he [r] awu [d] miyan.

B. 1 wâ .. .. 2 .... lawâ ge 3 nae me waew 4 hi mehe [ka] 5 rawâ ie (?) kas wa 6 me waewhi mas 7 marama ta ..... raekae 8 hat kewul 9 usu.

I give a literal translation, although I am aware that it will be very deficient, especially as the inscription seems to have occupied more than one pillar originally :—

His Majesty Sri Sang Boy in the 19th year of his reign on the 13th day in the bright half of Maendindina (March—April) at the Abhaya-tank having made ..... the lord having ordered to put at the four corners of the tank four pillars, that whoever might kill fishes in this tank may be taken into custody, not to be concealed, but to be taken to the town ... .by the overseer of the Mahawihâra, may be made to work at this tank ....

Kana is Sanskrit kona 'corner,' not as Goldschmidt believed — skanda 'embankment,' pahan is — pâsharsu, kewul — kaiwarta.

This inscription belongs most probably to Kassapo V. (937—954 according to Turnour, 914—931 according to the editors of the 2nd Part of the Mahâwamso) although he is said to have reigned in his 13th year, as such inaccuracies occur frequently enough. The following one belongs to his son-in-law and successor, Kassapo VI. and is to be found on a pillar in the jungle near Mihintale. I give the transcript from a photograph and squeeze :

1 Swas' [i eri] 2 Abhay Si 3 ri sa[ng] boyi 4 ma Puramukâ na 5 wayanne Ti 6 mate mashi 7 dasa wak da 8 was Saê 9 giri weheri 10 n pere dunumand 11 lan gannâ k[a] 12 t isâ mangu 13 mahawar is[â] 14 melât no 15 wadnâ i 16 sâ mang 17 diwa pediwa

B.

1 No wadnâ 2 isâ ... 3-... r[a]d ko 4 1 kaemiya 5 u no wadnâ 6 isâ Saâ 7 girigal 8 wadatalan 9 pulapan mi 10 wan sini 11 balân 12 no kapanu i 13 sâ kaepu 14 ..... kamtaen 16 gemae da 16 ṭ (?) ganuâ 17 isâ pawa 18 sangwael 19 la piriwen 20 sangwael

C.

1 La kuli mahawas 2 adakkalan 3 aetî no kiyaé 4 weherat gâ 5 unâ isâ me 6 tuwâk ayat 7 rad kolat gâ 8 umin sitiya 9 weherat me 10 wadâlanhayi 11 ârogya 12 sidhi.

Hail! [We] king Abhaya Siri Sang Boy in the 9th year of [our] reign on the 10th day of Himanta (November) order that the former priests shall be removed from the Caityagiri wihâra, that roads and high-roads (shall be made) ..... that travellers and pilgrims shall not enter, that the officers of the royal family shall not enter, that palmyras and cocoanuts and ferns and tamarinds shall not be cut, and, if cut, they shall be given to the owners, that the priest from the mountain and the priest from the temple if judging half a kalanda not sufficient as wages for the [up-keep of the] high road, shall take the rest from the temple and unto that from the taxes of the royal family (?)..... .....good prosperity!

The Caityagiri wihâra is the same mentioned in the long inscription of Mahindo III. at Ambasthala, Mihintale, of which the beginning has been published in Goldschmidt's Report XI., 10.* There, however, it is called Seygiri according to the tendency noticeable in this inscription to spell the words after the old fashion. Mangdiwa and piyadiwa must be according to the context the same as manggiya and piyagiya in the inscription at Mahâkalattaewa C. and diwa therefore be derived from √dhâw 'to run' cf Sidd. Sang. I., 41. The expression also occurs in the inscription of Komgollaewa (Colombo Museum) where we find pe instead of piya = pada: m [ang]diw pediw rad kol samadaruwan, wrongly translated by Goldschmidt: The princes of the royal family which is the lustre of this Island.

On the same road about 2 miles from Kanne there is a wihâra called Wigamuwa containing two ancient rock inscriptions, of which photographs were taken by me. Both of them seem to be hopelessly defaced. In much better preservation I found an inscription at Wâdigala, 1½ mile from Kanne on the road to Tangalla, although it is like the others flat on the rock. The following is the transcript: —

Hamaraketahi palamakubare me weherahi saga asati.

In the plain of Hamâra(?) the ..... paddy-field [is given] to the priesthood in this wihâra.

Asati is, according to Dr. Goldschmidt's explanation, a subjunctive of the root as "to be," later changed into isâ, which occurs frequently in inscriptions of the 10th and 11th centuries, and later still into nisâ by a mistake of the pandits, who thought it to be derived from the Pâli nissâya.

There are two more partly-effaced inscriptions on the same rock and two at Kahandagala, in the jungle ½ mile off the high road.

In proceeding further towards the east we find two inscriptions of King Niccanka Malla, of which one, a pillar from Kachigatta, has been removed to the Colombo Museum. The other one is at Wandarûpa wihâra, on the border of the Walawe river 1½ mile from the Ambalantota resthouse. The following is the transcript: —

1..... .....Kâlinga cakrawartin wahanse râja ..... 2 siri paemini dewana hawuruddehi patan Laepkâwa sisârâ gam nayam ga 3 [m] âdi wû no ek prasiddha sthâna hâ jala durgga panka durgga wanadurgga 4 Samanola âdiwâ giridurâga at ambulu pakak sâ balâ wadârâ daca digantarayehi 5 tun rajayehi no ek satiâ ilanwâ aneka yâcakayanta ran walan ridi walan dun .. .. 6 .. honda nadalî wadârâ bisowarun wahansê ae.idu wû pas denu wahansê tulabhâra naengu 7 hawuruduṭa patâ pas tulâ bhârayak baegin dî dukanîtun suwapat kotae suwapatun ..... 8 kotae tun rajayehi nock be.. ..... ya nawâ tun nakâ samanga kotae uwadesa..... ya 9 kotae hyawâ sa..... antahpurastrin Ruwanwalî wahasae wakanisê dâ wandanâ karan kaemae 10 ta baegae kiyaé ga[n] it nesêmne raja darukonakun kaeraewâ vê wehe dayi wadârâ 11 ananta wasa daewiya ..... dûna k tae mehe karuwan ânanda karawâ Pihitirajayata pi 12 yunak sê wû Ruwanmaeh dehagab wahansê karawâ antahpurastrin dâ wandawâ pe 13 ra aya gemae dustha kala Lankâwâ-inta ran walan ridî walan âdî wû boho saepa 14 1 dewâ wadârâ uttê am u] nakata aya ekamunu tun paé'ak hâ mandaran sakak ha 15 maendê anunakata ekamunu depaetak hâ mandaran hatatra aka lâ paessê anunakâta 16 ..... ekamunu.....hâ [manda] ran tunaka bae in aya gamâ nyâyenwyawastha kota wadârâ

..... The king born from the Kâlinga race, who went since two years round Ceylon, who saw towns and villages and several fortresses, strongholds in water, in marsh, and in forest, Adam's Peak and other fortified mountains like a ripe neli-fruit in his hand, in ten directions, who established different white canopies in the three kingdoms, who gave gold and silver ornaments to many poor people .... together with his queen's 5 people raising the balance, giving yearly 5 times his own weight, making unhappy people happy, happy people ..... raising ..... in the three kingdoms, uniting the three nikâyas into one, and made still more ..... made the women of the Harem salute the Ruwanwali Dagoba ..... Having pleased the working people, having made the kingdom of Pihiti like

INSCRIPTIONS IN THE HAMBANTOTA DISTRICT.

REPORT.

a lotus, having built the Ruwanwaeli Dagoba, having made the women of the harem salute the relic, having given to the people of Lamka that were unhappy through the taxes of former kings, gold and silver ornaments and much wealth, he gave orders to fix the tax for the first amunam at 1 amunam 3 paelas 6 mandaras, for the middle one at 1 amunam 2 paelas 4 mandaras, for the last at 1 amunam . . . . . paelas 3 mandaras.

The same passage concerning the tax occurs also in the inscription at Dambulla, *l* 2, and in the so-called Galpota at Polonnaruwa A 17. The derivation of utta is not clear; maenda is Sanskrit madhya, Pâli majjha; paessa is = paccima.

There is another inscription of the same king at Rambha Wehâra 12 miles from the Ambalantota rest-house; it consists of seven fragments, of which only two are tolerably well preserved. The content is almost to the word the same as in his other numerous inscriptions that are scattered all over the Island, and of which three have been published in the Journal of the Royal Asiatic Society for April, 1874.

The last inscription before we reach Hambantota is one of king Nâga Mahâsena (275-302, Mah. chap. 37.), at Karambagala 9 miles to the north of Ambalantota rest-house, not far from the Walawe river, where there is hardly anything legible except the name of the king. This, however, is interesting as he is only called Mahâsena in the Mahâwansa, whereas we find his other name besides in an inscription of his son and successor Meghawarna, at the Ruwanwaeli Dagoba, Anurâdhapura. I may mention here also the rock inscription at Badagiriya 9 miles from Hambantota, 2 miles off the old road to Badulla, which belongs to the same king Mahâsena, and of which I took a photograph.

Unfortunately too many letters are either missing or partly effaced, so that I cannot attempt a translation. There are however some interesting words which I may mention. In the fourth line we find a word nayariya=nâgarika (modern nuwara), in the same line the form wajeriyi "life declared" derived from Pâli avadhâreti. The modern verb is a corrupted tatsama wagharanawâ, the noun waedaerunna (Sid.-Sang.) In this old form wajeriyi the e seems to represent the sound ae, which at that time (2nd or 3rd century) had not yet its proper character. In the same fourth line we find apayaha* bahiya 'our brother' and in the fifth apayaha pute 'our son,' with which may be compared apayaha pah 'our sire' (Goldschmidt's Report XI., 8* in the Tissamâhârama inscription.

There was another very much effaced inscription on a pillar about half a mile north from the rock, which has been removed to the Colombo Museum.

We now go on at once to Tissamaharâma. Although I had heard that there were extensive ruins at this place, I only succeeded in finding two octagonal inscribed pillars, of which one was photographed. It is called Aetabaenduwa, the pillar to which the king's elephant was tied. The inscription, belonging to the sixth or seventh century, is almost totally effaced.

The other pillar at Sandagiri wihâra bears the name of Rohinika Gâmini, son of king Gajabâhu, grandson of king (Wankanâsika) Tisa.

There is also mentioned a queen Siladevi, which I was not able to identify, and the tanks of Dûra and Tissa, which according to the 35th chapter of the Mahâwansa were enlarged by king Ila nâga.

By far the most interesting inscription at Tissamahârâma is that inside the Dagoba, which was visible at the time when Dr. Goldschmidt visited the place. I give the transcript according to his notes: -

Siddham! Mahanaka rajaha pute Alunaka raja Nakanaltawihera kara[hi] Gola-gamavha ca Golugamaketa wagu ..... gamm ca nama.

Hail! king Alunaka, son of king Mahanâga, built (or enlarged?) the Nâgamaha-wihâra, the tank, and the field of Golugama.....

The fact alluded to in this inscription concerning the Nâgamahâwehâra is also related in the 35th chapter of the Mahâwanso, p. 217 of Turnour's edition. It was built according to Mahawanso, p. 130, by king Mahânâga, the second brother of Dewanam piya Tissa. It is not the same wihâra which is called Mahagama raja, Mahawihara, after king Kâkavanna Tissa, the father of Duttha Gâmini, in the inscription from Tissa Mahârâma that is now in the Colombo Museum (Goldschmidt's Report XI., p. 5, 6). The statement made here that Ila nâga was the son of Mahâ Eliya Mahanaga does not agree with the Mahawansa, according to which he was his grandson.

Grammatically interesting is the change from g to k, which seems to have been frequent in ancient Sinhalese f. i. baka = bhâga, vâku = yavagu, etc.

The inscription at Kirinde, although dealt with at some length in Dr. Goldschmidt's Report No. XI., p. 6, is not given there in its whole extent. I therefore reproduce it here: -

1. Siddham! Aparimite loke hi Buddhasame nati athâne parimandale be .... ? savanyutopete anatare satbe mahe arane lakieake Budha nam 3 Sayambhu me gaddhi wihera nira .... nama Budha saranagate mieya dittka bandiya .... nyate.

Hail! in the boundless universe there is no equal to Buddha, not bound by space, all-covering, endowed with omniscience, unrivalled, the Teacher, the great Refuge, the wheel of prosperity is Buddha, the self-existent. The wihâra on this rock ..... called .... is granted to .... who has put his trust into Buddha, having reduced the heretics.

* Mr. Childers in his Notes on the Sinhalese language II. 6, gave up explaining this word. I believe that it can easily be derived from the pronominal stem asma, like bhuppha bhasman, bhuppa for bhasma in Mahârâshtri (Hemacandra 58, 44.)

INSCRIPTIONS IN THE HAMBANTOTA DISTRICT.

There are some more inscriptions near Kirinde; two cave inscriptions, which offer no particular interest at a place called Galgedara (stone-house) in the jungle 4 miles off, and one rock inspection at Angunukolawihâra. The latter, although comparatively well preserved has until now resisted my efforts to decipher it. Another one completely effaced is at Durâwa, 1½ mile on the road to Hambantota.

The places beyond Kirinde I was unfortunately not able to visit owing to the continuous rain, but I give here from Dr. Goldschmidt's notes the transcript of a rather interesting inscription at Situlpawihâra (Cittalapabbato in the Mahâwamso) 22 miles from Kirinde :—

1. Siddham Nakamaharajaha puta Batiya Tisa maharajaha malu Ti ..... 2 maharaja atasa ta Tisa Kahawana [tab] iya Cittalapawata atina samaya dakini Ti 3 sa aleya wawi akala kotu kana waya Nakamaharajaha [ce] taha ... ta mudawatiyata ei 4 hatakaradorahi tamaha akala [ko] tu karitakojarahala ..... ea dasapahata [ayi 5 jina [pali] satari ... . kotu dini dukapata sakalasamata dini.

Hail! The son of king [Mallaka] Nâga, the brother of king Batiya Tisa, king [Kanittha] Tisa ..... repaired the Cittalapabbata established by Kâkavanna Tisa and the tanks of Dakhina and Tisa ..... and the cattya of king Nâga (*i.e.* Tissamahârâma) having remitted the taxes ..... and having performed deeds not (formerly) done (even) by himself ..... having repaired the decayed buildings ..... after having seen, he gave it over altogether.

The king mentioned here is Kanittha Tissa (155-173 A.D.) whose reign is dealt with in the 36th chapter of the Mahawansa, p. 225 of Turnour's edition. The Cittalapabbato was founded together with the Mahagama Mahâwihara (s. above) by king Kâkawanna Tissa according to Mahawanso, chapter XXII., p. 131.

I here subjoin a list of all the kings, which are mentioned in inscriptions in the Southern Province, in their chronological order between the first and fourth centuries A.D.:—

Wahala Wankanasika Tissa Gajabâhu Rohinika Gâmini Teta Tissa Abhaya	Tissamahârâma.
Mahânâga Aluwaka	Nagamahawihâra.
Siri Nâga Mahâsena Meghawarna	Karambagala and Badagiriya.
Mallaka Nâga Batiya Tissa Kanittha Tissa	Situlpawihâra.

Besides this there is an inscription of Parâkramabâhu I. at Galândawala, four miles from Yâla, and some fragments at Uttarawihâra six miles from Yâla, of which I could not make out the date.

Colombo, 17th October, 1878. E. MÜLLER.

XXVI.

OPIUM AND BHANG BILL.

REPORT of a SUB-COMMITTEE of the LEGISLATIVE COUNCIL appointed to rep upon the Bill, "An Ordinance to amend the Law regulating the possession and sale of Opium and Bhang."

Ordered by the Legislative Council to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

EXTRACT from the MINUTES of a meeting of the LEGISLATIVE COUNCIL held at the Council Chamber on Wednesday, the 16th October, 1878.

Resolved.—That the following gentlemen be appointed a Sub-Committee to report upon the Bill intituled:

"An Ordinance to amend the law regulating the possession and sale of Opium and Bhang."

The Hon. R. CAYLEY, Queen's Advocate.

The Hon. F. R. SAUNDERS, Government Agent, Western Province.

The Hon. Sir M. COOMARA SWAMY, } Unofficial Members.
The Hon. G. B. LEECHMAN, }

OPIUM AND BHANG BILL.

REPORT.

THE Sub-Committee beg to report as follows :—

Title and Preamble.—The word "regulating" in the title and in the preamble may be changed for the expression "relating to."

Clause 2.—The Sub-Committee recommend that the last sentence be expunged and the following sentence substituted, viz : "It shall also be lawful for the Governor with the advice aforesaid by Proclamation to declare that this Ordinance shall cease to have any operation in any place or district which may be or become subject thereto ; in which case this Ordinance shall accordingly cease to have any operation in such place or district."

Clause 5.—In the margin the word printed "two" (pounds) should be "one" (pound.)

Clause 7.—In first sub-section, line four, the Sub-Committee recommend the substitution of "ten pounds in weight" for the words "twenty-five pounds ;" and in the second sub-section, lines three, four and five, that the words "and fifty" (rupees) be struck out ; also in third sub-section that the words "but such quantity shall not exceed five pounds in weight at one time ;" be struck out, and the following substituted, viz.:—"such quantity to be fixed at the discretion of the officer granting the license."

Clause 9.—The Sub-Committee recommend that the first twenty words of this clause be expunged, and the following substituted, viz. :—"The Government Agent or Chairman of a Municipal Council authorized to grant licenses under this Ordinance may at his discretion refuse to grant any license, which may be applied for, or may" &c.

In line three for the word "to" the word "may" be substituted.

Clause 11.—In line five after the word "license" the words "or contrary to the conditions thereof" may be inserted.

In line nine for the words "Police Magistrate" insert the word "Court."

In line eleven for the word "or" substitute the words "and the."

In line twelve the words "the Treasury or" may be struck out.

The thirteenth and fourteenth lines may be expunged and the following words substituted, viz.:—"If the seizure shall have taken place within the Municipal limits, and in other cases shall be paid into the General Treasury."

Clause 12.—For the words "Police Magistrate" the word "Court" may be substituted.

Clause 15.—The word "two" in the 2nd line may be altered to the word "three."

Schedule (1.)—After the word "possessed" in the 3rd line the following may be added, viz.:—"subject to the following conditions (here insert the conditions, if any."

(2.) In the third line for the words "under" the words "subject to" may be substituted.

RICHARD CAYLEY.
F. R. SAUNDERS.
M. COOMARA SWAMY.
GEO. B. LEECHMAN.

Council Chamber,
9th November, 1878.

XXVII.

REPORT

ON THE

STATE OF THE RAYIGAM KORALE,

OCTOBER, 1878.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON

1878.

STATE OF THE RAYIGAM KORALE.

From the Hon. the GOVERNMENT AGENT, Western Province, to the Hon. the COLONIAL SECRETARY.

No. 1,553.

Government Agent's Office,
Colombo, 2nd November, 1878.

STATE OF THE RAYIGAM KORALE.

Report.

SIR,—I HAVE the honor to report that I have returned from a short visit to the three principal pattus of the Rayigam Korale, and beg to submit the following remarks for the information of Government.

The Rayigam Korale is divided into four pattus or divisions:—The Munwattabagé Pattu, the Adikari Pattu, the Kumbuke Pattu and the Udukaha Pattu.*

The Munwattabagé Pattu which is the largest and most important of the pattuwas, is the one in which the crops have suffered most from the heavy floods; the Adikari Pattu has suffered next most; and in the Udukaha and Kumbuke Pattus only a few villages have been seriously damaged.

On Wednesday the 30th ultimo, I passed through the Adikari Pattu and held a meeting of the headmen and people of the Adikari, Udukaha and Kumbuke Pattus at Horana.

On Thursday, the 31st, I passed through the Munwattabagé Pattu to Anguruwatota, where I met the Assistant Agent, Mr. Bell, who had just made a tour through the Pasdun Korale, and I then held a meeting of the headmen and people of the Munwattabagé Pattu.

The result of these meetings has been to confirm all that I have previously reported to Government.

The crops of two of the Munwattabagé and Adikari, and of certain villages of the other Korales have suffered very severely from the flood. All over the district a great deal of the crop taken in has proved to be light, having been seriously damaged by the constant rains. The sweet potato and other root crops have likewise suffered severely from the same cause, and even the fruit trees, and especially the jack, are likely to yield very short crops this year. To a people accustomed to live almost entirely on the produce of their own fields and gardens, the failure of several crops in succession could not fail to bring some want and privation, and these have been aggravated by the very high price of imported food.

At present only a small section, viz., the very poorest, are really feeling serious want and distress, but it cannot be doubted that if the mass of the people persist in refusing to work so long as they have a handful of rice in their houses, or can procure fruits or roots from their gardens or jungles, ere long these short supplies will be finished, and then distress, famine, and starvation will really ensue. I have, however, no hesitation in saying that all this may be avoided if the people will only bestir themselves in time, and take advantage of the assistance which the Government and the Road Committee have so readily provided for them.

At present there seems but little use in endeavouring to reason with the people. As the Mudaliyar of the Koralé has already observed, they have not yet arrived at the point when they feel compelled to work. At Horana, when I asked the people why they would not work on the roads, they said because 8*d.* a day was insufficient pay—it might buy rice and cocoanut, but it would not buy chillies and pepper, salt-fish, etc. They admitted, however, that the time might have come when they would be glad to get 8*d.* a day, but the people of the Munwattabagé Pattu, when questioned, declared they would rather die than work like coolies for such a paltry sum. The fact is, the people of Rayigam Korale do not yet know what real want is. The people of the Pasdun Korale, which adjoins Rayigam Korale, are far more poor, and are at the present moment more pinched than they, and the people of the North-Western Province live in a chronic state of poverty and distress utterly unknown to the healthy, sleek, and usually well-fed agriculturalists of the Rayigam Korale.

It is worth while noticing, as shewing the difference in the means and condition of the people of Rayigam and Pasdun Korales, that in the Rayigam Korale the people invariably pay the Road Commutation tax, instead of working on the roads, whilst in the Pasdun Korale a large number of the people turn out to work rather than pay the tax.

But however obstinate the people may be now, there cannot be a doubt that unless they do take to work soon, a very serious famine will come upon them. The Maha crop, which either has been or is just being sown, appears likely to suffer from rain and floods as much as the Yala which has just been reaped. Even if more favourable weather

* See small sketch annexed.

STATE OF THE RAYIGAM KORALE.

REPORT.

should set in, the Maha crops in this division are always very small, and not 1-10th or 1-20th of the Yalla, so that although a certain amount of grain may be harvested in January and February there can be no very bountiful harvest expected until September or October next. It is therefore necessary to consider what steps should be taken to assist the people during the period which must elapse before they are once again independent.

Naturally the first works to be thought of are those which, whilst they will find present employment and pay for the people, will also benefit them in the future by preventing or mitigating the damage from which they annually suffer. Before I left Colombo I obtained from the Director of Public Works and Mr. Vine, plans and sections of the proposed Flood Outlet Scheme at Talpitiya. I spoke to the people of Munwattabagé Pattu about the scheme, and explained to them what it was intended to effect, and I am glad to say that they all regarded it with approval, and declared that if the Government would undertake it, they would guarantee a supply of labour for moderate wages. The Headmen, after consultation, pledged themselves to turn out 200 men a day (except when crops require their attention) until the work was finished. I need not say anything further in favour of the scheme now, for I have simply to record that having mentioned what had passed between the people and myself to the Hon'ble the Colonial Secretary a few hours after my return to Colombo yesterday, I was summoned before His Excellency the Governor to-day, and orders have already gone forth that the work in question is to be undertaken immediately. I sincerely trust that this will convince the people of the earnest interest taken by His Excellency in their welfare, and of the sincere desire which every officer of the Government has to help those who are willing to help themselves. It now only remains for the local officers and headmen to so arrange the supply of labour amongst the several villages as to secure for all a share of the benefits in what undoubtedly may be termed a great relief work.

There is another smaller work of the same kind which, though at present postponed, deserves honourable notice.

Mr. Odris De Fonseka, Mohandiram, living at Pohaddaramulla has offered to undertake to make a small flood outlet, and to meet the cost of feeding labourers, if Government will assist him by providing the professional superintendence necessary for the work. The Mohandiram calculated that 4,000 rupees or 5,000 rupees would be sufficient for the purpose, but Mr. Vine estimates the whole cost, including openings and bridges on the Galle road and railway at ten times the amount, so that until the Talpitiya scheme is completed it is perhaps well to postpone this one, but I beg to ask that I may be permitted to convey to the Mohandiram the thanks of the Government for his liberal and philanthropic offer to spend so large a sum with the double object of executing a desirable public work, and of finding employment and food for such of his countrymen as might be in want.

The Flood Outlet Scheme having been sanctioned, there is less necessity now for me to detail the other schemes which have been started to give relief throughout the district.

Annexed is a list of roads in the Rayigam and Pasdun Korales on which work is to be at once undertaken, that is to say as soon as the people are ready to turn out. Arrangements have been made for the punctual payment of the labourers either in money or in rice.

A large amount of Sinhalese labour, I am told, will be required early in next year to fell the land recently purchased for Liberian Coffee Estates in the Pasdun Korale. This being close to the river will give employment to the people of Rayigam Korale as well, and cannot fail to be of assistance to them at a time when they are likely to require it.

The Gikiyanakanda Citronella Estate also on the borders of the Pasdun Korale finds employment for some 250 persons daily. I was glad to learn from Mr. Foulkes, the Manager, that at present the people about him were sufficiently provided for.

I have also had under consideration the question of allowing persons to cultivate Crown chenas. In all times of impending famine and scarcity, it has been usual to relax very considerably the rules regarding the conservancy of Crown chenas, and as the season for clearing chenas is in December and January, I have authorized the Assistant Agent to permit a reasonable amount of low-lying chena to every village in which the paddy crops have been very short. The Mudaliyar seems to anticipate great trouble in regulating the cultivation of these chenas, and says it will give dissatisfaction if the permission is not made general and universal, but so much trouble has been taken during the last 10 or 15 years to preserve these chenas, some of which are now valuable forests, that it is absolutely impossible to allow indiscriminate felling now, and I sincerely trust that the Mudaliyars of both Rayigam and Pasdun Korles will exercise great care and discretion in their recommendations for permits, so that an indulgence, which is intended to be a boon and a relief to the people, may not at the same time lead to a wasteful destruction of Government property. A difficulty has already arisen as to what share of rent should be taken. Hitherto half share has always been levied on Crown chenas. In private chenas proprietors get one-third share, but of course at such rates, the number of applications would be limited to those who had other means, and took a chena merely to supplement their supplies. On the other hand if the rates are reduced so as to allow those who take chenas to make a really good profit by them, the number of applications will be unlimited, and a large destruction of wooded land will take place. However, if

the Mudaliyars exercise a fair control over the applications, I purpose to reduce the rent to one-fifth at most, and may be to less.

I have likewise directed the Assistant Government Agent, as Chairman of the District Road Committee, when calling out labour under Ordinance 10 of 1861 in the Pasdun Korale, to point out to persons the provisions of the 57th clause of the Ordinance, whereby a person may at his option receive half-pay whilst working, provided he works for twelve days instead of six. This arrangement would, I think, in times of scarcity be regarded as a boon. In cases where the Chairman deems it expedient he will not call out the labour due under the Ordinance at all, and will suspend the execution of warrants for non-payment of commutation in districts which commute instead of labouring.

Lastly, I have informed the Assistant Agents and the Mudaliyars that they are at liberty in very special cases, and after strict enquiry, to grant gratuitous relief to old and sick persons who, having no relations or friends, are utterly unable to work. The number of such persons at present must be very small, and I have warned my officers that in thus dealing with public funds they must exercise a greater strictness than is necessary in distributing private charity. Full and particular accounts will be kept of all moneys thus expended.

I have noticed that a public subscription list has been opened for a "Rayigam Korale" relief fund, and though I am of opinion that relief is quite as much needed in the Pasdun and other Korales, yet I shall be happy to see this fund attain larger proportions than at present. When the promoters of the scheme have collected all they are able to get, I purpose to inform the public that there is in the name of the Government Agent at the Oriental Bank a sum of 7,400 rupees, the balance of a previous Western Province relief fund, and I shall call a meeting to appoint a committee to apportion some of this to such of the Korales as may require it. At present there is no distress which calls for such a proceeding, but it is very gratifying to know that when the necessity arises we have so large a sum to start with. All I at present fear is that a small section of the public, led away by exaggerated reports, may be induced to send more relief than is actually required to a district, the people of which are naturally inclined to be indolent and improvident, and they may thereby bring on, or accelerate a famine which I feel sure may be averted, if the people can only be induced by persuasion, or if it must be by hunger, to take to honest labour.

It is especially gratifying to be able to report that the health of the district at present is excellent, and the appearance of the people whom I passed upon the roads, and of the crowds who gathered round me at my halting place was that of a well-fed, well-to-do people, who afford a strong contrast to the poor creatures to be met with in so many parts of the Island. I believe that at the present moment everything that a Government can do, or ought to do, is being done to help the people of this important, populous, and flourishing district—who having unfortunately met with severe loss by the failure of a most important crop are suffering from the effect consequent thereon, but who have advantages all around them, such as are denied to many of their less fortunately placed countrymen, and who, if they will but avail themselves of the opportunities given to them, may tide over their present difficulties almost without having seriously felt them.

I am, &c.,

F. R. SAUNDERS,
Acting Government Agent.

November 6th.

I regret that this report has been delayed a few days since it was written, for want of the returns and the sketch alluded to in the 2nd paragraph. The return shews very clearly the extent to which the crops have suffered in Two Korales, whilst they have been above the average in others.

P. S. No. 2.—I find I am still unable to send the sketch; it shall be forwarded hereafter.

LIST of Roads to be undertaken as Relief Works in the Rayigam and Pasdun Korales.

Rayigam Korale.

1.—Road from Bandaragama to Waskadua.
2.—Bolgode road within the Adikaw Pattuwa.
3.—Anguruatotta road within the Munwattalagé Pattuwa.
4.—Road from Yala to Diyagama and up to Pannipitiya.
5.—Road from Waskaduwa to Morontuduwa.
6.—Bandaragama to Kindulpitiya.

Pasdun Korale.

1.—Road from Alutgama to Welipane, 9 miles.
2.—Lord Elphinstone's road, 3 miles.
3.—Road from Agalawatte to Belane, 1½ miles.
4.—Welipane to Matugama, 4 miles.
5.—Bayngalle to Agalawatta, 16 miles.
6.—Agalawatta to Anguruatotta.
7.—Pelawatta road.

STATEMENT shewing the extent of Paddy Land sown in each of the Pattus of the *Rayigam Korale* for the *Yala Harvests* from 1872 to 1878 and the amount realized for the Government share of the crops thereon.

Year.	Adikari Pattu.				Munwattabage Pattu.				Kumbuke Pattu.				Udukaha Pattu.				Total for the Rayigam Korale.			
	Extent.		Amount		Extent.		Amount.		Extent		Amount.		Extent.		Amount.		Extent.		Amount.	
	Bhls.	Pecks	Rs	Cts	Bhls.	Pecks	Rs.	Cts.	Bhls.	Pecks	Rs.	Cts.	Bhls.	Pecks.	Rs.	Cts.	Bhls	Pecks.	Rs.	Cts.
1872	4362	0 3/4	5,150	0	8143	2 1/8	8,471	25	4011	0 1/2	4,314	0	2869	1 1/8	2,585	0	19,386	1 1/8	20,720	95
1873	4056	1 3/4	7,193	50	6559	1 1/8	9,041	50	4437	2 1/2	6,792	0	3074	3 3/4	3,485	0	18,028	2 1/2	26,512	0
1874	4410	0 1/8	6,134	0	7210	2	10,260	0	4165	2 3/8	5,256	0	3139	2	3,152	0	18,925	2 2/8	24,802	0
1875	4747	0	7,[illegible]46	0	7537	1	7,939	0	4691	3	9,065	0	3527	2	3,834	50	20,503	2	27,984	50
1876	2519	3 1/8	3,380	0	5558	1 2/8	7,513	35	3064	2 4/8	5,500	70	2644	2 1/8	3,229	80	13,777	1	19,638	85
1877	3970	3 3/8	9,549	0	6162	1 4/8	11,597	0	4018	0	10,965	0	4504	1 3/8	9,1[illegible]0	0	18,765	3 2/8	46,231	0
1878	3336	0 1/8	4,265	0	5379	0 1/8	7,331	50	4685	2 1/8	10,595	25	5128	2 1/8	7,693	0	18,529	3	29,884	75

It will be seen from the above that whilst the Munwattebage and Adikari Pattus have had crops much below the general average of former years, the Kumbuke and Udukaha Pattus have had crops decidedly above the average. The crop of the whole Korale is a pretty fair average crop.

F. R. SAUNDERS,
Acting Government Agent.

BILL REPEALING PROCLAMATION OF 1819.

REPORT of a SUB-COMMITTEE of the LEGISLATIVE COUNCIL appointed to report upon the Bill, "An Ordinance to repeal the Proclamation of the 5th August, 1819, relating to the forcible possession of land and moveable property."

Ordered by the Legislative Council to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

EXTRACT from the MINUTES of a meeting of the LEGISLATIVE COUNCIL, held at the Council Chamber on Wednesday, the 25th September, 1878.

Resolved,—That the following gentlemen be appointed a Sub-Committee to report upon the Bill:

"An Ordinance to repeal the Proclamation of 5th August, 1819, relating to the forcible possession of land and moveable property."

The Hon. RICHARD CAYLEY, Queen's Advocate.

The Hon. F. B. TEMPLER, Government Agent, Central Province.

MR. J. VAN LANGENBERG, } Unofficial Members.
MR. J. P. OBEYESEKARA, }

BILL REPEALING PROCLAMATION OF 1819.

REPORT.

BILL REPEALING PROCLAMATIO

REPORT.

THE Sub-Committee appointed to report upon the Bill entitled "*An Ordinance to repeal the Proclamation of the 5th August*, 1819, *relating to the forcible possession of land and moveable property*," having considered the same, have the honor to submit the following report :—

That in the opinion of the Sub-Committee, the aforesaid Bill requires no verbal alterations.

That the Sub-Committee having communicated with the Police Magistrates of the districts of the Central Province, wherein the Proclamation is in force, have obtained from them the returns hereunto annexed, which shew that, out of 2,641 persons charged under the said Proclamation during the three years ending 30th December, 1877, 172 or about 6·5 per cent. only have been convicted.

Police Court.	No. of person charged	No. of persons convicted	Police Court.	No. of person charged	No. of persons convicted.
Galagedara	400	25	Nuwara Eliya	42	14
Kegalla	363	1	Pussellawa	20	—
Dickoya	7	—	Badulla	62	2
Matale	215	20	Panwila	11	1
Maturata	36	2	Gampola	20	—
Haldummulla	24	2	Ratnapura	371	20
Kandy	641	49	Puttalam	10	—
Nawalapitiya	46	1	Anuradhapura	14	14*
Dambula	—	—	Kurunegala	299	21
				2641	172

* All were accused in one case.

Legislative Council Chamber,
Colombo, 23rd November, 1878.

R. CAYLEY,
F. B. TEMPLER,
J. VANLANGENBERG,
J. P. OBEYESEKARA.

XXIX.

PAPERS

RELATING TO

GRAIN TAXES.

(*Moved for by the Hon. G. B. Leechman.*)

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

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PAPERS

RELATING TO

GRAIN TAXES.

No. 1.

Governor the Right Hon. Sir W. H. GREGORY, K.C.M.G., to the EARL of CARNARVON.

No. 15.
Miscellaneous.

Queen's House,
Colombo, January 9th, 18[illegible].

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PAPERS.

No. 1.

23rd March

MY LORD,—THE subject of taxation in this Colony is one which has for some time engaged my attention. I have been making a series of enquiries into the working of the present system since the beginning of this year, and I take the opportunity of giving your Lordship full information on the subject.

For a long period the system of taxation resorted to in Ceylon has been the subject of communications between the Home Government and the Governors of the Colony. So far back as 1833 Lord Goderich wrote to Sir W. Horton to this effect :—

"The proposal to impose such a tax (on cocoanut trees) connects itself with the consideration of the grain tax, the vexations attending the collection of which, particularly where property is so much subdivided as it is in Ceylon, are inseparable from such a source of revenue, and have already given rise to representations and complaints upon the subject by the people. Such an interference in the management of their land is equally felt in situations where the right of collection is sold to speculators; and a tax thus imposed on the subsistence of the people, from which other articles of produce are exempt, or upon which alone a rate of duty is levied, must, by discouraging the natural application of capital, operate as a check on that branch of agriculture which ought on every ground to receive the most encouragement."

Despatch 435 of 14th November, 1845.

The attention of the late Lord Derby, when Secretary of State for the Colonies, was directed to the same subject of a readjustment of taxation; but he left office after addressing Sir Colin Campbell, the then Governor, on the expediency of an inquiry into the matter. Mr. Gladstone, who succeeded Lord Derby, reiterated the same opinion, that a revision of taxation was expedient, and requested that the Governor and Executive Council should furnish him with a detailed report "upon the various existing branches of revenue, shewing the manner in which they affect the trade and commerce of the country, their actual produce, and the probable effects of their reduction and remission." Reports were sent in by three members of the Executive Council, and among them was an elaborate treatise of Sir Emerson Tennent, in which he condemns in the strongest language the tax on paddy and other grain produced in the Island, and also disapproves of, though in more modified language, the import duties on rice and paddy. After giving a history of the paddy tax and the manner in which it is farmed, Sir E. Tennent thus comments on its working :—

"It would be difficult to devise a scheme more pregnant with oppression, extortion, and demoralization, than the apparently simple one here detailed. The cultivator is handed over helplessly to two successive sets of inquisitorial officers—the assessors and the renters—and their underlings, who have so direct a control over his interests, that abuses are inevitable, and the intercourse of the two parties is characterized by rigour and extortion on the one side, and cunning and subterfuge of every description on the other. Every artifice and disingenuous device is put in practice to deceive the headmen and Government assessors as to the extent and fertility of the land and the actual value of the crop, and they in return resort to the most vexatious and inquisitorial interference either to protect the interests of the Government or privately to further their own. Between these demoralizing influences the character and industry of the rural population are equally deteriorated and destroyed, and the extension of cultivation by the reclaiming a portion of waste land only exposes the harrassed proprietor to fresh visits from the headmen and to new valuation by the Government assessors, and where annoyance is not the leading object, corruption is resorted to keep down the valuation. ***But no sooner has the cultivator got rid of the assessors, than he falls into the hands of the renters, who, under the protection which the law (properly I admit) extends to a party who has an unpopular duty to perform of recovering the tax, finds himself vested with an unusual power of vexation and annoyance; he may be designedly out of the way when the cultivator sends notice of his intention to cut; and if the latter, to save his harvest from perishing on the stalk, ventures to reap in his absence, the penalties of the law are instantly enforced against***

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him through the District Court. Under the pressure of this formidable control, the agricultural proprietor, rather than lose his time and his crop in dancing attendance on the renter, or submitting to the multiform annoyance of his subordinates, is driven to purchase forbearance by additional payment, and it is generally understood that the share of the tax which eventually reaches the Treasury does not form one-half of the amount which is thus extorted by oppressive devices from the helpless proprietors."

Although I concur entirely with Sir E. Tennent, that the system of renting is vicious both in theory and in practice, yet it seems to me astounding that he could have written the remarks which I have underlined, considering that only seven years before these remarks were written an Ordinance was passed (14th of 1840) providing a remedy for the abuses which he conceived to be still in existence. At the close of this despatch I will refer to the provisions of that Ordinance. I can only account for this statement of Sir E. Tennent by the fact that he had been but a very short time in Ceylon when he wrote it.

The despatch of Sir C. Campbell and Sir E. Tennent's report were considered of such importance by the home authorities that a Commission was appointed by Lord Grey to enquire into the financial position and prospects of Ceylon. They reported in May, 1847. The names of the members of the Commission—B. Hawes, H. Tuffnell, J. G. Lefeuvre, R. Bird—are a guarantee that the subject submitted to them would be thoroughly and ably investigated, and that the conclusions at which they arrived would be deserving of the fullest consideration. I refrain from noticing any of their other recommendations, the chief one, that of the remission of the export duty on cinnamon, having been carried out; but I desire to draw your Lordship's attention to the views they expressed on the subject of taxes on food. They state that they have no doubt "as to the oppression and extortion committed under the system of farming out the annual assessment on paddy lands, the discouragement which it causes to the cultivation of that description of produce, and the demoralization which tyranny and avarice, on the one side, and cunning and deception, on the other, necessarily create among all who are connected with it." They then proceed to say: "We agree with Sir E. Tennent in thinking that the tax on rice and paddy lands, so far as that tax depends on an annual assessment of the growing crop, is most objectionable in principle, and ought to be abolished as soon as it may be possible to substitute for it a general land tax based on a mixed calculation of the amount now paid for paddy and rice lands and the amount to be paid for other lands in the Colony." They also proposed that the import duty on rice should be reduced from 7*d.* to 4*d.* a bushel, and that on paddy from 3*d.* to 2*d.*, which, if not recouped by increase of consumption and consequently of importation, would have involved a loss of £25,000, or one-third of the whole revenue (£75,000) derived at the time from that source.

No. 114, 23rd May, Sir H Robinson to Duke of Buckingham.

The subject of the abolition or reduction of taxes on food seems to have been in abeyance till 1868 when the Duke of Buckingham recommended that there should be a reduction in the import duty on rice. Sir H. Robinson in reply pointed out that the state of the revenue would not admit of the loss, and he referred to the substitution of a land tax with disfavour, chiefly on the ground of the cost of the necessary surveys and the long period which must elapse before their completion. The Surveyor-General, himself an advocate for a land tax, reported a few months later that it would take eighty years with his then staff to complete the surveys which were considered requisite by the Government, and that 120 additional surveyors would be wanted, at a cost of £2,000 per annum, to complete them in seven years.

No. 121, May 1870 Lord Granville to Sir H. Robinson

In 1870 Lord Granville, being under the impression that there was a surplus of £100,000, suggested a reduction in the import duty on rice and paddy. Sir Hercules Robinson laid a minute before the Executive Council, in which he shewed that no such surplus revenue really existed, but that it was due solely to exceptional circumstances, and he pointed out that the Government was pledged to various measures which forbade the hope of any remission of taxation: irrigation works, hospitals, prisons, roads, bridges, &c. Sir Hercules invited the members of the Executive Council to state their views in writing, and they unanimously declared against any reduction in taxation. Mr. Irving, the Colonial Secretary, shewed how light was taxation in Ceylon, and that the Singhalese were the least taxed of any people in the world living under a civilized Government. He also proved that the ordinary taxation was not sufficient to meet annual expenditure, and that it had to be supplemented by what must be termed extraordinary sources, such as land sales, railway receipts, &c. Mr. Douglas, the Auditor-General, very clearly pointed out that the expenditure of existing balances on useful and reproductive works would be a far greater boon to the natives than the reduction recommended; and Mr. Vane, the Treasurer, stated "that he should welcome the day when rice duties might be entirely repealed, but a reduction to half would hardly reach the consumer at all. Rice must be relieved of all duty and from Customs regulations, and the charges consequent thereupon, to ensure that competition in the trade which will give the consumer the absolute benefit in price which is desired to be afforded." In this opinion of Mr. Vane I entirely concur. The whole weight of local authority has ever been adverse to a reduction of the duties on rice and paddy. The Committee of the Legislative Council which sat in 1841 reported against it as involving a loss to the revenue without any advantage. They pointed out, as did Sir H. Robinson and the Executive Council in 1870, that the expense of carriage into the interior was a much heavier item in the cost of rice than the import duty, and therefore that the population would be benefited to a greater extent if the money raised by the rice

duty were laid out in improvement of means of communication than by the abolition of the tax. These views were strongly expressed by the Hon. George Turnour, then Colonial Treasurer, whose great ability, knowledge of the country, and the deep interest he took in the natives, entitle them to much respect. This subject, however, assumes a different aspect if it be looked on as a question of total abolition. A reduction would leave the restrictions unchanged and the trade in precisely the same hands as at present, and there is no reason to suppose that a reduction would benefit the consumer. The difference of duty would go into the pocket of the Indian importer. If all rice entering Ceylon were free from duty, I think it possible there might be an increase in the trade, and that as men of small capital would embark in the business, a brisker competition might be the result. I am bound, however, to add that I make this remark with much hesitation. The rice trade is so entirely in the hands of a particular class of Indian traders called Chetties, that it is very doubtful if they would lower the prices of rice in case the duty were removed. They are all powerful in the market, and would act as best suits their advantage or supposed advantage, and though European merchants might step in at times and import, they would have to contend with the widespread ramifications and influence of the Chetties. Occurrences which have taken place within the last few days corroborate this opinion. In Jaffna all the available rice was recently held by a small number of these Chetties. They raised the price at once to an exorbitant extent, and in order to force the people to their terms they closed their establishments and refused to sell. They literally for the time almost held the lives of the inhabitants in their hands. Food riots were the result, and the matter ended by the Chetties reducing their price. Until the colony becomes more self-supporting than it is by the increase of rice cultivation, we may, whether the rice duty be abolished, reduced, or retained, always expect to be subjected to similar combinations.

But it would be manifestly unfair to let foreign rice enter free, and to retain in the case of the home producer of rice a tax from which the foreigner is exempt. The import duty was calculated at an equivalent to the tax on the home cultivator, not as "an encouragement to native industry," according to protectionist phraseology, but as a matter of fairness. Moreover, if a re-adjustment of taxation be resolved on, it would be most injudicious to abolish the import duty without at the same time abolishing the tax on home-raised grain. The most powerful and wealthy interest in the island is the planting. It is possible that when the planters thoroughly understood the subject they would accept a 5s. or 5s. 6d. land tax per acre in lieu of the present rice duties, and that in the case of good and prosperous estates they would not be losers by so doing. That they would be heavy losers if the price of coffee fell largely, in which case they would not be able to employ as many hands as at present, or if labour failed them, is obvious, as it is by the reduction in the price of the rice which they supply to their labourers that they would recoup the land tax. Now, if the rice duties were removed before the imposition of a general tax, the result would be that the planters would naturally accept the remission, but would resist with all their influence the equivalent for that remission which would have subsequently to be demanded of them. Moreover, the loss to the revenue of £177,000 a year, the present income from rice duties, would be disastrous, and should not be entertained for a moment, in view of the obligation to which we have already bound ourselves, and to which we shall have to bind ourselves before the Breakwater and Railway extensions now contemplated are completed. The import tax on rice and the home tithe on paddy must stand or fall together.

I now proceed to the financial aspect of the question, and I think it desirable to show the state of the revenue of the Colony at the three periods when the question of taxation was mooted, and at present, giving at the same time the amount of ordinary and what I may call casual revenue, and also the amount of the taxes on grain at each of the periods:—

1845.	Rs.	Rs.
Total revenue ...	4,508,720 ; of this	770,000 was casual and from incidental receipts.
	Rs.	Rs.
Tax on imported grain...	753,779	— 1,229,084
on home grain ...	475,305	
1868.	Rs.	Rs.
Total revenue ...	8,095,684 ; of this,	1,156,973 was casual.
Grain taxes, imported...	1,432,661	— 2,291,625
Home grain ...	858,964	
1875.	Rs.	Rs.
Total revenue ...	14,093,933 ; of this,	1,620,141 was casual.
	Rs.	Rs.
Grain taxes, import ...	1,776,645	— 2,876,689
Home grain ...	1,100,044	

Your Lordship will perceive with satisfaction that casual revenue is diminishing in its proportion to ordinary revenue. Under this head is classed by the Auditor-General land sales, interest, fines, pearl-fisheries, sale of Government property, survey fees, Government vessels, interest on surplus funds investment, and many other incidental and miscellaneous items of minor amount.

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It will be seen from these figures that in 1845 and 1868 the revenue derived from taxes on grain were more than one-fourth of the revenue of the Island, and in 1875 more than one-fifth. It must also be considered that this is gross revenue, and that if casual revenue be deducted, the tax on grain forms a very large component part of the resources of the Colony. Before abolishing this source of revenue we must be sure that whatever is substituted for it should either at once, or certainly at no distant time, be an equivalent to it, and that the prospect of expansion under the change should be as reliable as it is at present. Moreover, we should carefully inquire and be satisfied that a change will not involve grave and permanent irritation. The Sinhalese are a most peaceable, well-conducted race, but taxation and religion are two explosive elements in the East.

It is generally—I may say universally—admitted that the only substitute for the home tax on paddy and the import duties on grain would be a general land tax, and it is contended that a land tax may be imposed which would be an equivalent to them. I now proceed to investigate the proposed land tax.

August 21st, 1869

I enclose to you a memorandum drawn up by the Surveyor-General, Colonel Fyers, R.E., at the request of my predecessor in 1869. Colonel Fyers has added some statistics to it to make it applicable to the present time. He takes the area of taxable private land to be about 1,750,000 acres, and that this at an average rate of 3*s.* an acre would give a revenue of £262,000 per annum. This would nearly make up for the present grain duties and taxes, amounting to £287,000; but taking Colonel Fyers's figures and stretching them as far as I can do, I am quite unable even to approach his estimate.

The following table shews the very highest rate which should be exacted:—

	Acres.	Tax	£
Coffee	300,000	5*s.* per acre	75,000
Tea, Cinchona	4,000	5*s.*, per do.	1,000
Tobacco	17,000	3*s.*	2,550
Coconut	320,000	3*s.*	48,000
Cinnamon	28,000	3*s*	4,200
Gardens	80,000	2*s.*	8,000
Paddy land	564,000	2*s.* 6*d.*	70,500
Other grain	102,000	2*s.*	10,200
	1,336,000		219,450

The large difference of acreage between this calculation and that of Colonel Fyers's is to be accounted for, inasmuch as it would be hardly possible to raise a tax on the vast extent of pasture land which he includes in his scheme, not less than 414,000 acres. A great portion of this land would hardly find a purchaser at 3*s.* an acre, much less annual renters at any approximate rate. As cattle are the fly-wheel of agricultural work in Ceylon, no greater blow could be inflicted on the cultivator and on his cultivation than to curtail his pasture ground which he has hitherto freely enjoyed, and any tax worth collecting would unquestionably curtail it; or he would be unable to pay for the large tract which, from the poorness of the herbage, he requires to give food to a limited number of cattle.

It will thus be seen that we start, according to my figures, with a loss of £68,000 a year.

We are now bound to ascertain whether these taxes have hampered cultivation or have pressed so hard on the consumers of rice that importation has been hampered.

	Home grain Tithe.	Tax on imported grain.		
1836	379,060	229,520	=	608,580
1845	370,530	608,051	=	1,168,581
1854	600,240	722,310		1,312,550
1865	1,045,350	1,516,350	=	2,561,750
1875	1,100,044	1,776,645	=	2,876,689

The increase of home cultivation since 1836 is most remarkable, and does not corroborate the rash and unjustifiable assertions of those who proclaim without looking into returns that the paddy tithe has crushed cultivation, though I should not be warranted in concluding that the manner in which it is collected has in no way checked it. It may be said that the enhanced price of paddy since 1836 swells the value of the return, and affects the favourable conclusions which might otherwise be drawn from these figures as to the increased area of cultivation. This is no doubt true to a certain extent, but that paddy cultivation has largely extended, and is largely extending, cannot be gainsaid. Moreover, it should be remembered that if the Government has been the gainer by the rise in the value of the bushel of paddy which falls to its share, the cultivator is the gainer of the nine bushels of enhanced value which are his share.

As regards the figures which I have assumed in calculating the returns from a land tax, I greatly doubt if the sum which they denote could be levied. I have taken the tax which brings in the largest return, that on coffee land, at 5*s.* per acre; but so far as I can ascertain, the planter does not pay in taxation for the rice he furnishes his coolies more

than about 5s. 3d. an acre per annum on the best estates; it would be manifestly unjust to apply the same scale to a plantation producing 6 or 8 cwts. per acre, and to one returning but little profit after deducting working expenses. There must be a discriminating tax on valuation, a most difficult operation; and as the maximum would be 5s. per acre, it is clear that the return of £75,000 per annum must be reduced.

The planters, moreover, pay at present at the rate of 2s. an acre under the Cooly Medical Wants Ordinance, and from 2s. to 6s. an acre on the annual maintenance of roads in their districts constructed on the grant-in-aid system, by which they have had to defray one-half of the original cost of such roads. They would undoubtedly claim to have these burdens taken into consideration in case of the introduction of a land tax, unless it were demonstrated that such a tax fell more lightly on them than the Customs duty on rice.

Under the head of "coffee land" the native gardens producing coffee are reckoned, but such an impost as 5s. per acre on these patches of land would almost be a prohibition in the way of native coffee planting, and the crushing of an industry which is largely spreading and improving the condition of the people in the higher districts.

I may next refer to cocoanut plantations. My figures represent all land planted with cocoanuts, whether inbearing or not, but for the first seven or eight years at least there is no return from this tree. It would be impossible to tax a tract of land producing nothing. Were it to be levied at the rate of 3s. an acre for seven or eight years till the trees were in bearing, the tax would generally double the actual cost of the land at the usual upset price. I believe that the very apprehension of the tax would deter from this branch of cultivation.

I could go into other items and give reasons why it is more than doubtful whether the amount assigned to them could be obtained.

The summing up of the first branch of the question is to this effect:—

1st.—That no substitute for the Customs duty on imported grain and on home-grown rice has been suggested except a general tax.

2nd.—That the loss to the revenue, were a land tax to be substituted for the present system, would be not less than £60,000 or £70,000 per annum.

Next arises the very grave question, how far would such a change of taxation be acceptable to the people. Since I began this despatch much light has been thrown on the subject by the Sinhalese member of Council, Mr. Alwis, who moved the following resolution:—

"That a committee or commission be appointed to inquire into the taxes on food now levied in Ceylon, and to report whether it would be advisable or acceptable to the people of this Island to substitute a general land tax in their place; and if not, whether it would not be possible to devise a better mode of levying the existing tax on paddy than by the injurious mode of farming it, which generally prevails at present."

Mr. Alwis is a Sinhalese gentleman of high position. He is a man of wealth, character, and learning, and has deservedly much influence among his countrymen.

I forward a copy of the debate which is well deserving of attention. Mr. Alwis expressed no disapprobation of the import duties, nor of the paddy tithe as such, which he showed was in harmony with the traditions and the feelings of the people; but he commented strongly and most unfavourably on the proposals to establish a land tax. He intimated that it would be universally rejected, and that not a single native would be found to advocate it. He pointed out with remarkable force the great injustice of removing from the immigrant and floating population the only tax they pay for the protection they receive by converting the Customs duty into a land tax, and thereby saddling the cultivators of Ceylon with an impost of £112,000 in addition to the £110,000 which they now pay. I calculate that the planters pay £65,000 of this duty, thus making up the sum total to £177,000. At the same time he expressed his strongest disapprobation of the renting system, and reiterated all the arguments which have been used against it by the best authorities. In summing up the debate very briefly, and in granting the commission of inquiry asked for, I stated that I fully concurred in all that had been alleged by Mr. Alwis against the existing system, that it was indefensible in principle and in practice mischievous and offensive. This had been almost universally acknowledged. How then did it continue? Was it supported by the Secretary of State? Certainly not. It had always been received with disapprobation at home. Was it the Governors who upheld it? Certainly not. They had condemned it and tried to substitute commutation in its place. No one had a stronger opinion in this respect or had more frequently expressed it than myself. Was it the Government Agents? They had for a long period by their annual reports expressed as adverse opinions to its continuance as Mr. Alwis himself. It was solely owing to the intense stereotyped conservatism of an Oriental people, who were accustomed to do things in a certain way from a long period of time, and who would not move out of the beaten tract except by compulsion. This compulsion the Government did not wish to resort to. They lived in hope that with the spread of wealth and education the natives themselves would abandon this wretched system, which no one in authority wishes to maintain and which imposes a vast amount of trouble. I was fully able to corroborate Mr. Alwis's statement, that to the tythe on paddy there is no objection whatever. I have spoken to the cultivators in all parts of the Island, and in no case have I ever heard an unfavourable comment on the tythe, though I have had many representations as to the manner in which it is levied. In every instance where I have asked if they would be willing to have

Observer 21st December, 1876.

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a land tax accompanied with a reduction of tythe they have shewn the strongest aversion to it. It was tried originally when Ceylon was under the East Indian Government, and it had to be abandoned. It was subsequently tried by Sir E. Barnes, a man of inflexible will, but he found the levying of a tax on gardens and small plots to be so objectionable and fraught with such an amount of resistance, evasion, and extortion, that he also abandoned it.

I have alluded to the intense conservatism of the East. Changes are unwillingly accepted even if the benefit of the change be acknowledged; how dangerous would it therefore be to introduce such a change as that proposed into the taxation of the country, the benefit of which would be hotly and in native opinion universally contested. A general land tax is undoubtedly a more fair mode of raising a revenue than is a partial tax on grain, but no one who has studied the history of the Sepoy Mutiny can fail to recognize that the sympathies of the villagers in many districts were enlisted on the side of the revolt solely or chiefly by changes in the administrative system, the beneficial effects of which could not be denied, but which evoked suspicion, irritation, and insurrection.

"No man of healthy intellect can express a doubt that the system of Government which the English introduced into Oude was far superior to that which was superseded.

"We are in too great a hurry to do good after our own fashion, and so introduce sudden changes which the people rarely understand and often resent until resentment grows into resistance.

"Our zealous civilians, instead of waiting, plunged at once into a great sea of reform, and raised storm which could only be subdued by an overwhelming army."—*Kaye's Sepoy War, Vol. III.*

In dealing with an Oriental people we may remodel and alter indirect taxation as much as we please, but the imposition of fresh direct taxation is a very serious matter, the consequence of which no one can foretell.

The objection to the paddy tythe, as I said before, is not to the tythe itself, but to the mode in which it is collected. I have also pointed out that the reason it continues is owing to the desire on the part of the Government to defer to the wishes of the cultivators, and not to force on them a reform they are unwilling to accept. Sir Charles Layard in his Administration Report of 1869—1870 wrote to this effect:—"There has always been an unwillingness on the part of paddy growers in the maritime districts to bind themselves to any money payment to Government; the payment in kind they have long been accustomed to, and they prefer it with all the inconveniences of the renting system to committing themselves to an obligation which their improvidence, of which they are not unconscious, might disable them from fulfilling, and the non-fulfilment of which would entail the possible loss of the property which secures the ultimate recovery of whatever may be due by them." Mr. Sharpe, the Assistant Government Agent of Badulla, a Civil Servant of experience, in a recent report, corroborates this view, which is generally entertained by our revenue officers. Mr. Sharpe says: "The value of commutation is, I think, understood generally, but whenever the cultivation is precarious, the people prefer to face the renter when there is a crop, and the Crown share is sold, rather than pay on an average, however low, for a long series of years during which there is no crop." He is however referring to certain districts where the supply of water cannot be relied on.

The following return also shews that at one time there was a rapid increase of commutation up to 1870, but that from that period it has been declining considerably.

Grain Tythes.

	Rented.	Commuted.
	£	£
1860	50,824	11,980
1862	51,682	10,982
1865	75,124	22,100
1870	54,978	43,776
1873	49,937	32,093
1874	47,485	28,818
1875	59,589	26,990

Mr. Alwis has not hesitated to indicate that he would not object to enforce compulsion of commutation if it cannot otherwise be effected, and the committee now appointed will enquire, whether the rate of commutation has been too high; whether inducements can be held out to lead the cultivators to commute; whether the majority of the community should not enforce commutation on the minority; whether the villagers should be compelled to become their own renters, or, finally, whether commutation is to be enforced whatever be the objections of the tythe-payer.

The next objection to the paddy tythe is the fact that it is imposed exclusively on rice while other cultivation is free. And here I may state that the great planting interest contributes more to the general revenue, and is as heavily taxed, acre for acre, as the rice cultivator. The paddy tax may be said to average 4*s.* or 5*s.* per acre, when not commuted, and considerably less when commuted.

* These figures differ from those in page 5. The difference arises from the grain, &c., not being included.

The Customs duties on imported rice come to 4s. or 5s. per acre, at least, in the case of the coffee plantations.

It will perhaps be said that it is the consumer who pays the tax, the labourer, and not the planter; but such is not the case. The planter supplies rice to his coolies at a fixed price, and whether the price rises or falls, this agreement is maintained. The coolies would be no gainer by cheap rice, nor would he be a loser by dear rice. His wages and his food would remain and do remain unchanged. The tythe is rent for land which was never held in fee under the native kings, but by service. This service was commuted by the English into a general tax, which was subsequently reduced to one on paddy, for the reasons I have given. The fact that other land is exempted from this rent or tythe is no reason that all land should be so exempted. It is not the case that the paddy grower is unjustly treated, for he receives his share of benefit by the uplands which he holds free of tax. To impose a land tax on him on account of his garden would, in the words of Mr. Alwis, be to lay a food tax on a food tax—to tax the curry as well as the rice. We may shift and change our taxation, but if we adopt a land tax as a substitute for the present food taxes, one-half of the whole amount raised by it will be quite as much a food tax as any that is imposed at present.

An inscription recently deciphered by Dr. Goldschmidt is the proclamation of king Nusanka Mala who reigned at the end of the thirteenth century. This king, in enumerating his good deeds, states that he abolished the tax of half on produce. The small proportion of the gross produce taken by the English Government, namely 1-10th, and in some cases less, contrasts favourably with what was levied by king Nusanka Mala in former days and with the land tax in India at present. It has been calculated that the land revenue in Ceylon is equal to 10*d.* per head against 2*s.* in Bengal, 3*s.* 3*d.* in Madras, and 4*s.* 5*d.* in Bombay.

I am not however prepared to vouch for the accuracy of this calculation. One thing however is clear, that the small proportion of produce exacted by the state shews how wide a margin exists in this Colony within the limits of rents proper, and how much that margin might be encroached on without overstepping the boundary and trespassing on that of outlay.

I now come to the import duty on grain, which is objectionable so far as all taxes are, but which has advantages here from the easy manner in which it is collected, and from its pressing but lightly on the consumer. The case of this tax is very forcibly put by the Editor of the *Observer*, who has recently published some remarkably able and exhaustive articles on this subject; and I cannot do better than to avail myself of his words: - "In the meantime, considering the Customs duty as a means of raising revenue from all classes with the least possible inconvenience, the minimum of trouble and expense, and an entire absence of the corruption which more or less affects nearly every direct system of taxation, it is most admirably adapted to an oriental people. There can be no extortion on poor ignorant natives through the Customs,—no quarrelling, no false accusations by headmen, police, or tax collectors, no vexatious threats if bribes or "saatosums" (gifts) are not freely awarded even when the tax-payer is quite prepared to meet the full demand of the law. We are ready to admit that these evils are to a certain extent connected with the collection of the grain tythe as well as with the road commutation tax, the house assessment rate or nearly every other levy made throughout the country or within the Municipalities. The Customs duty, on the other hand, is never felt; its incidence falls in the most gradual way possible on each consumer, over every bushel of rice or yard of cloth he requires. The tax is scarcely realized at all, and if removed, there might be grounds for fearing in the face of native conservatism that the importer or middle man would share all the profit between them, the price to the consumer remaining much the same as before."

To lower the Customs duty on imported rice would be simply to throw away so much revenue. I doubt if a single additional bushel would come in consequence into the Colony, or that the price would be reduced by one cent per bushel to the consumer. A reduction however, in another way, is gradually proceeding, namely, in the proportion of the duty to the cost prices of the article. When the tax of 7*d.* per bushel was first imposed, the cost of rice was 2*s.* 6*d.* per bushel and the impost was equal to 25 per cent., now that rice has risen to 6*s.* 6*d.* a bushel the tax bears the proportion of 10 per cent.

It must be borne in mind that out of the £177,000 which the rice tax brings in, the planters pay about £65,000, taking the number at 260,000 of coolies employed in connection with coffee cultivation. The rest is paid by the floating population, chiefly of Indians, who are attracted by the high wages given in Ceylon, who own no land, and who contribute scarcely anything in return for the protection they receive. A large proportion of them look to return to India with their savings, which the wages here, 9*d.* per diem as against 4½*d.* in India, enable them to put by. It is but reasonable that they should contribute something towards the revenue, and that their present very light contribution should not be removed from them, and thrown on the Sinhalese cultivator.

I have, I trust, satisfied your Lordship that commutation is open to all who choose to avail themselves of it, and that it has been solely a deference to the wishes and, in some respects, reasonable wishes of the people, that it has not been forced upon them.

Even under the renting system, faulty as it is, the enclosed regulations shew that the Government insists on fair dealing with the cultivator being maintained. The regulations contained in the Ordinance of 1840 provide fully against the abuses which attend the

Ordinance No. 14 of 1840.

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farming of the grain taxes elsewhere. The renter is bound to attend at the time named by the cultivator, and if he does not, his share is set apart for him in the presence of the Government headmen. All notices must be in writing, and printed forms are issued free to cultivators on application to the Kachcheri. A specimen of this form is appended. At the back of the notice is an abstract of the Ordinance, of which a translation is attached.

So long as the supply of water is precarious, so long will the Sinhalese cultivator, I fear, in many districts, insist on not being bound by the hard and fast line of commutation. The Government of the Colony is doing all it can to extend irrigation throughout the island, and thereby render the supply of water more stable than at present. I append herewith a table to shew what has hitherto been expended.

			Supply and Supplementary Rs.
Voted for the year	1856	..	40,000
Do.	1857	...	70,000
Do.	1858	..	218,250
Do.	1859	...	88,863
Do.	1860	...	49,255
Do.	1861	..	1,500
Do.	1862	...	2,410
Do.	1863	...	2,210
Do.	1864	...	2,530
Do.	1865	...	2,630
Do.	1866	...	2,630
Do.	1867	...	100,000
Do.	1868	...	8,140
Do.	1869	...	8,000 60,630
Do.	1870	...	210,000
Do.	1871	...	310,000
Do.	1872	...	260,000
Do.	1873	...	222,000 1,800
Do.	1874	...	228,500 72,671
Do.	1875	...	278,500
Do.	1876	...	326,000
		Total Rs...	2,566,519

The new system of repairing the village tanks, adopted by me on the principle of the villagers doing the earthwork and the Government giving the sluice and masonry gratuitously, is proceeding admirably. Work is now going on vigorously upon hundreds of tanks in the North-Central Province, where the experiment was begun on the suggestion of Mr. Dickson, and now applications for similar assistance are coming in from the Western, North-Western and Northern Provinces. I am convinced that in a few years this system will largely spread throughout the island, and be the means of increasing the supply of food, and rendering us more independent of our neighbours. Were I, however, to remain here, I should ask your permission to embark on larger undertakings. I have in a former despatch set forward my views to Your Lordship as to the policy of the early kings of Kandy, who constructed gigantic tanks, which have often been described as monuments of overweening folly. I believe on the contrary, and have recently acquired proofs, if proofs were needed, that these undertakings were the result of a wise and beneficent policy. The main object of these kings, as it should be of the present rulers of Ceylon, was to afford a permanent supply of water. They accordingly dammed up rivers which, flowing from the hills, invariably filled the large tank constructed to receive them. From this large store tank other smaller store tanks were supplied by channels, and they in their turn filled all the village tanks below them annually. These great store tanks being breached, and the channels filled up, the cultivators have now to take their chance of a very precarious rainfall, which often fails them.

I have recently completed the restoration of one of these great tanks—that of Kanthalai—at the trifling expense of a little over £6,000. It now holds up water to irrigate 23,000 acres of land, all belonging to Government, and all of which I trust before very long will be under grain. Another, and a far greater undertaking, is the restoration of the great Kaluwewa tank which, if once repaired, would fill the minor store tanks in the south of the North-Central Province, and from them the village tanks, besides bringing gradually into cultivation enormous tracts of Crown land now in jungle. The rough estimates for this great work are not more than from £30,000 to £40,000; but as yet no sufficient surveys have been made.

A permanent supply of water, which undertakings such as these will maintain, is the best inducement to wean the natives to abandon the renting system. Perhaps the Committee about to sit shortly may devise means to make commutation more palatable than at present, and if so, no one will more rejoice than myself to hear that the renting system has been finally, or, at all events, in a great measure, abandoned.

I have, &c.,
W. H. GREGORY.

No. 2.

Governor Sir J. R. Longden, K.C.M.G., to the Right Hon. Sir M. E. Hicks-Beach, Bart., M.P.

No. 86.
Miscellaneous.

Queen's House,
Colombo, 18th December, 1877.

My Lord,—I have the honor to forward herewith the report, with appendices, of the Commissioners appointed in January last to inquire into the taxes on home-grown grain and the Customs duties on imported grain.

2. The Commission was composed of the five European and five native gentlemen named in the margin, but one of the Europeans, Sir Charles Layard, returned to England before the report was considered, and therefore the enclosed report may be taken as the opinion of five native gentlemen (perhaps the best in the Island qualified to form a judgment on the question) and four Europeans.

The Hon. A. N. Birch.
The Hon. H. Dias.
The Hon. R. Cayley.
The Hon. Sir C. P. Layard.
The Hon. Sir M. Coomara Swamy.
The Hon. J. Alwis.
J. F. Dickson, Esq.
G. Wall, Esq.
J. A. Perera, Maha Mudaliyar.
Dullewe Loku Banda.

3. The primary question in relation to these taxes on food of course is, To what extent, if any, do they injuriously affect the welfare of the people? The answer will be found in the report. As regards the customs duty on imported rice, the Commissioners point out that a great portion of the imported rice is carried into the interior for the use of the Indian cooly population employed upon the coffee plantations, and that the duty, which is at the rate of seven-pence per bushel, bears such a very small proportion to the cost of carriage that the repeal of it would not appreciably affect the price of the small quantities bought by the coolies for their daily consumption. Moreover, whatever the price of rice may be, the coffee planters must give a money wage sufficient not only for the coolies to buy what rice they require, but also to leave a margin above the cost of living for the cooly to put by, without which inducement he will not leave India for Ceylon. To a considerable extent, therefore, this duty falls upon employers more than upon labourers, and to this extent the repeal of the duty would only benefit the employer. On the whole question, the Commissioners have pronounced the opinion that the Customs duties on grain "do not affect consumption in any material degree," and the statistics given in appendix VII. shew that the duty has not restricted the importation.

4. The tax or tythe on home-grown grain is declared by the Commissioners to be "conformable with ancient usage and acquiesced in generally by the people." And they add that "the native cultivator in the East universally recognises the right of the Government to a share in the produce of the soil." In fact most of the private lands (the temple lands and some others being specially exempt) have been acquired by inheritance, grant, or sale, subject to the payment to the Government of a share of the produce. The tythe is from this point of view more analogous to rent than to a tax in the ordinary sense of the term. It is a part of the national property, and the present incumbents of that property have no just right to claim relief from the conditions upon which they acquired their land.

5. The mode, however, in which this rent has been collected by intermediate farmers of the revenue (called in the report and evidence "renters") has been condemned by a long series of Statesmen and Governors, and must be abandoned without delay. I need not stop to dwell on the abuses to which this mode of collecting the revenue may give rise. Those abuses are fully exposed in the despatches of successive Governors, in the reports of Royal Commissions, in official documents, and in books written about Ceylon. No doubt every care has been used by the Government. Ordinances have been passed to punish fraudulent practices and to check oppression; close supervision has been exercised; yet there is reason to apprehend that abuses have occurred, and they may again recur without detection. On this point the Commissioners report as follows:—"Notwithstanding every precaution and the care with which the law has been framed to prevent abuse, and while securing the due collection of the revenue to give all possible protection to the cultivator, the evidence compels us to the conclusion that the present mode of collecting the tythe on home-grown grain by the existing system is susceptible of abuse and has been

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abused to the disadvantage of the cultivator." The remedy recommended by the Commissioners is the conversion of the tythe into a fixed money payment by the landowners. This system is already almost exclusively adopted in the Kandyan Provinces, and to a considerable extent in other provinces. It has therefore the advantage of being familiar to the people. It is proposed that the money value of the tythe should be fairly assessed under the provisions of a law to be passed, and the amount so assessed paid to the Government in lieu of the payment in kind. In order to meet the varying circumstances of the assessed land, it is proposed that the commutation shall be subject to revision at the end of the first seven years, and thereafter—if the commutation be found not to diminish unduly the revenue, and, on the other hand, not to press hardly on the cultivators—the commutation may be extended to longer periods. This system has several advantages to recommend it. One is, that it is already in practice throughout the Central Province and is not unfamiliar to the people. Another is that it will put an end wholly and entirely to the renting system and its manifold inconveniences and possible abuses. If the assessment be fairly made as it ought, so as to bring in the nett amount of the tax now received by the Government under the present system, the cultivators as a body will benefit by the whole profit now reaped by the renters, which will remain in their hands. This profit has been estimated by one of the most experienced Government Agents, Mr. Dickson, at no less than 30 per cent.

6. There is a subsidiary question connected with this, namely, the difficulty of commuting the tax upon what is called "fine grain." This is chiefly grown in the Northern Province, and the Government Agent of that Province has more than once recommended the abolition of the tax, as any commutation of the tax appears to him so difficult as to be in his opinion unpracticable. The abolition of the fine grain tax is recommended by a majority of the Commissioners; and if it should be found upon trial that it is not practicable to make a fair assessment of the dry grain lands, I shall be prepared to concur in this recommendation rather than perpetuate the existing system.

7. Although the evils incidental to the collection of the tythe on home-grown grain by the agency of the renters may be removed, yet it will be asked why taxes on food which have been abandoned in England as impolitic should be maintained in Ceylon, and why the Customs duties and tythe should not be altogether surrendered. A full answer to this question will be found in the enclosed report. These grain taxes yielded in 1876 £290,278, which was 33 per cent. of the entire ordinary revenue of the Colony exclusive of extraordinary receipts, and this amount of taxation could not be remitted without suddenly arresting all the improvements now in progress.

8. The total expenditure of the Colony in the year 1876 was £1,276,930. Of this sum the Government establishments, including the Judicial, Ecclesiastical, and Medical Departments, and the Departments of Public Instruction, Police, and Prisons, cost £351,136; the Military contribution paid to England on account of the Garrison was £116,250; and the maintenance of public hospitals, the upkeep of the roads, and the other ordinary charges and necessary of Government amounted to £417,891, making the total ordinary expenditure £885,297. The remainder of the public expenditure, amounting to £391,633, was chiefly devoted to railway services, irrigation, and public works.

9. The total receipts for the same year were £1,375,887. Of this sum more than a fifth part was received from the Government railways, the gross receipts of which amounted to £279,670; the receipts from the sale of Crown lands, the produce of the Government salt ponds, and other special receipts amounted to £224,402; so that the revenue proper derived from taxation, Customs, stamps, taxes, and licenses amounted, including the grain taxes, to only £871,815, a sum smaller in fact than the ordinary and necessary expenditure of the Colony.

10. It is, I submit, evident that in the present financial condition of the Colony taxation to the extent of £290,278 could not be surrendered without probably endangering the credit of the Colony, and certainly not without arresting the progress of the improvements so urgently needed.

11. Among these improvements the first place for importance to the population at large must be given to the restoration of the ancient tanks, which alone rendered in past times, and which alone can render now, the cultivation of the low lands possible. With water, cultivation may increase almost indefinitely; without it, the land remains a jungle. If the policy of Sir Henry Ward, Sir Hercules Robinson, and Sir William Gregory in restoring these ancient works be vigorously followed up, extensive tracts of land can be restored to cultivation. In pursuance of this policy my Government has proposed, and the Legislative Council have agreed to a vote of four hundred thousand rupees for irrigation works in 1878.

12. Of scarcely less importance is the improvement of the communications by the construction of railways, as well in the low country like the Kalutara railway, as among the mountains where the coffee plantations are. The extent to which the natives avail themselves of the railway, wherever it is opened, may be read in the reports of the Railway officials. A more convincing proof of it is to be seen in the revenue.

13. The repeal of the grain taxes without raising an equivalent amount of revenue from other sources would, as I have pointed out, arrest the progress of these improvements. The native population would undoubtedly suffer from the abandonment of the irrigation

works, and the hope of raising within the Island sufficient for its resident and immigrant population would have to be indefinitely postponed, and the surrender of these taxes would benefit a comparatively small section only of the population. The present owners of paddy lands who have acquired them subject to the tythe, would obtain a relief that they have no more right to than the tenant farmers of England have to be relieved of the payment of their rent. The repeal of the Customs duties on foreign grain would principally benefit the merchants only, mostly native Chetties, in whose hands the rice trade is, for they would obtain an extra profit equal to the remitted duty, and the price of rice in the bazaars by the pound or measure would probably remain almost exactly the same.

14. Nor do I think that the Colony at large would benefit by any extension of its trade or cultivation in consequence of these taxes being given up, for the quantity of grain imported and the area of land put under cultivation depend on considerations altogether independent of the duties, and the duties do not appear even to have interfered with the gradual development of trade and cultivation. This will be clearly seen on reference to the statistics appended to the Commissioners' report. The annual return from the Customs duty on grain has increased fifteen-fold in the last half-century. In 1823 the duties yielded £12,027, in 1876 £183,953. This increase is to be mainly attributed to the great development in the coffee industry and the consequent immigration of thousands of coolies annually from India to work on the coffee plantations, where they earned more than wages enough to buy the imported rice. In the same period the revenue from home-grown grain increased only three-fold, namely, from £36,716 in 1823 to £106,325 in 1876. The increase in the home grown-grain has necessarily been restricted by the want of irrigation and has only increased as the restoration of the annual works permitted additional tracts of land to be irrigated.

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15. The next consideration is, whether any other tax could be substituted for the grain tax that would not be considered in England so objectionable as taxes on food always are.

16. The revenue derived from the Customs, exclusive of the import duties on grain, is undoubtedly small for a population of 2¼ millions, being only £109,864. But I doubt whether the revenue could be substantially increased by the imposition of new duties, for the consumption of dutiable goods by the mass of the native population is very limited. The total value of imports, exclusive of grain, upon which the abovenamed duties of £109,864 were levied, was £2,830,976, so that the average rate of duty on all imported articles whatsoever is about four per cent., and if allowance be made for the articles admitted free of duty the per-centage will be higher. The *ad valorem* duty on goods not specifically named in the tariff is, in fact, five per cent.

17. The tax which is most commonly advocated in lieu of the grain taxes is a general land tax, embracing not only the paddy fields now subject to tythe, but also the coffee plantations, cocoanut walks, cinnamon gardens, and village lands. This tax has the support of such high authorities as Sir Charles Layard, the most experienced servant of the Crown in Ceylon, and of Colonel Fyers, R.E., the Surveyor-General. The Commissioners in their report point out some of the difficulties in the way of assessing such a tax, but consider it a "measure which has much to commend it to the most patient consideration of the Government, and think that possibly at some future day it may be desirable to adopt it." This conclusion, while leaving the question open, admits that it is not practicable to impose the land tax as a present substitute for the grain taxes. And there is, in my judgment, a very fatal objection to the tax, in that it is a tax to which the people are unaccustomed, that it will reach multitudes of them who are in no way affected by the grain taxes, that it will be condemned by the people, and that the collection of it will be passively evaded though not perhaps openly resisted.

18. I do not venture to express such an opinion after so short a residence in the Island without authority. There will be found in the first appendix to the report a most valuable body of evidence, consisting of the written replies given by seventy-eight, mostly representative persons, to a series of twenty-three questions drawn up by the Commissioners and circulated in the native languages as well as in English among the principal public officers and the trading native landowners and agriculturalists. The 23rd question was in the following terms:—

"Do you think it advisable or practicable to substitute a general land tax for the present taxes on home-grown and imported grain? If so, you are requested to specify the amount, which you would propose to assess coffee plantations, and gardens, cinnamon, tobacco, paddy fields, and other plots of cultivated land; also uncultivated lands in private hands, and the annual amount which could thereby be fairly realized."

To this question answers were returned by twenty-seven European gentlemen and forty-six native gentlemen. The present or eventual substitution of a land tax was approved by four European gentlemen and pronounced unadvisable or impracticable by twenty-three. But it is to native opinion that in a question of this kind the greatest weight is due, and I find that out of the forty-six gentlemen who answered the question, four were in favour of the proposed substitution, two favoured it, but thought that it could not be effected at present, and forty were totally opposed to a land tax. In most cases their dissent was simply though emphatically expressed, but those who did give reasons all expressed as their principal ground of objection that the substitution of a land tax would be ruinous to the villagers—that the people generally would suffer by it—and that it would be acceptable to none.

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19. It must be remembered that the great bulk of the Sinhalese peasantry are landowners. Irrespective of the vast number of grants of small holdings of Crown lands issued annually by the Government (1,757 grants for plots of land averaging only six acres each were issued in the year 1876 alone), the lands which have descended from parents to children have been almost infinitesimally divided as the population multiplied. The number of these small holdings bearing perhaps half-a-dozen cocoanut trees or a few garden shrubs, is immense, and the cost alone of the machinery for collecting the land tax would be so great in proportion to the yield of the tax, that it would amount to a virtual prohibition even if the discontent of the people offered no other obstacle to it.

20. Another difficulty would be found in assessing a land tax in the great contrast between the amount of capital expended upon some lands and the value of the produce raised thereon, and the *laissez faire* with which other lands are suffered to produce what they will without manure or care of any kind. The difference between the value of the produce of an acre of coffee on a fine estate and that of an acre of cocoanut trees is enormous. Even in the grain-taxes, where all the produce is of the same general kind, there is often much difficulty in arriving at a correct assessment of the land, but the difficulty would be enormously increased if all produce is to be assessed. Yet no land tax could be imposed which would bring a nett revenue of 290,000 rupees into the Treasury which did not distinguish between different kinds of land; it would be impracticable to impose a uniform tax, payable in money, on all the private lands in the Colony, for to do so must lead to the eviction of hundreds of thousands of villagers who could not pay the tax from their ancient holdings, and would ensure their pauperization.

21. These considerations, and the fact that there is no existing survey of much of the country sufficiently accurate to base an assessment upon, dispose me to think that a land tax is impracticable. I would gladly aid in the removal of the taxes on food. I came to the Colony three months ago fully persuaded of the impolicy of these taxes, and hoping to remove them. I have, after full consideration, come to the conclusion that these taxes do not in Ceylon either affect trade or cultivation to any appreciable extent. I do not think that it will be practicable to raise an equal sum by other means of taxation. I believe that the revenue cannot be reduced by the amount of the grain taxes without stopping irrigation and railway works. I believe that the injury arising from the stoppage of the irrigation works alone will not be compensated by any benefit that may be derived from the repeal of these taxes, and I am therefore reluctantly obliged to add my recommendation to that of the Commissioners, that these taxes be for the present retained subject to the alteration in the mode of collection which has been pointed out.

I am, &c.,
J. R. LONGDEN.

No. 3.

No. 3.

The Right Hon. Sir M. E. HICKS-BEACH, Bart., M.P., to Governor Sir J. R. LONGDEN, K.C.M.G.

Ceylon.

No. 147. Downing-street, 9th July, 1878.

SIR,—I HAVE read and considered your despatch No. 86 of the 18th of December, and the report of the Grain Tax Commission which accompanied it, and I have much pleasure in expressing my sense of the ability with which the Commissioners have drawn up their report, and the care which they have evidently bestowed upon it.

2. The subject now brought before me involves two distinct questions: (1.) as regards the grain taxes themselves; (2) as regards the mode of collecting them.

3. Adverting first to the second of these two questions, I cannot avoid the conclusion that if the grain taxes be retained the present method of collection should be changed; and I see no reason to doubt the soundness of the opinion expressed in the final recapitulation of the Commission's report, that "the present renting system is indefensible in principle, is open to abuse, and has actually led to abuse." Such a system should therefore be given up without delay, and the plan of compulsory commutation should be adopted in its stead.

4. I notice that the majority of the Commissioners are in favour of abolishing entirely the tax on fine grain, and that in the opinion of the Government Agent of the Northern Province the commutation of this tax is impracticable; but although the amount of revenue derived from it is comparatively small, I am not at present prepared to give my assent to its abolition, and I request that it may be further considered whether some scheme of commutation cannot be adopted in this as in the case of other grain, provided that the cost of collection does not prove so great as to render the tax unremunerative.

5. The other question, namely, whether the taxes, in whatever form, should be retained at all, is far more intricate, and has given rise to much greater divergence of opinion. On the whole; I concur with you in thinking that the revenue is not able to bear the considerable loss which would ensue from their abolition without the substitution of other taxation

in their place; and though the increasing prosperity of Ceylon might appear to suggest that the Colonial finances could afford to lose some portion of the amount so raised, yet in view of the large special expenditure which has been and is still being incurred, and considering the advantages which all classes, including the small cultivators, derive from the active prosecution of roads, railways, irrigation, and other public works, I am satisfied that it would not be expedient at the present time to abandon so important a source of revenue.

Under these circumstances the further point arises, whether the loss of revenue which the abolition of these taxes would entail could not be met by increasing other taxes, such as, for instance, the duties on wine, spirits, and tobacco.

6. I took advantage of the presence of Mr. Birch in this country to consult him upon this point, which does not appear to be completely dealt with in the report of the Commissioners; and in accordance with my request he furnished me with a memorandum on the subject. That paper, a copy of which I enclose for your information, agrees with the observations contained in your despatch, and I am satisfied that no advantage would be derived from increasing the duties on wine and spirits. In considering this subject I have observed that the home-grown tobacco of Ceylon, so far from being itself taxed, appears to be protected by import duties on foreign growth of one shilling per pound on cigars and snuff, four-pence per pound on manufactured tobacco, and two and a-half pence per pound on unmanufactured tobacco. As the consumption of tobacco is a legitimate source of taxation, it is desirable that you should consider whether means cannot be devised by which the consumer of home-grown tobacco equally with the consumer of the imported articles should contribute to the revenue.

7. The only alternative to the grain taxes which the Commission appears to have thought worthy of serious consideration is that of a general land tax. I observe that the Commissioners generally are opposed to the imposition of such a tax, and you, equally with your predecessor, appear to be strongly of opinion that it would prove an unsuccessful measure; on the other hand, I find that Sir C. Layard and Colonel Fyers are disposed to recommend the adoption of this form of tax.

8. The main arguments urged against it appear to be (1) the disfavour with which it would be regarded by the native inhabitants of Ceylon, and (2) the cost of the preliminary surveys.

9. As regards the first point, Sir W. Gregory has spoken in the strongest terms in his despatch No. 15 of the 9th January, stating that in view of the strong conservatism of the East "the imposition of fresh direct taxation is a very serious matter, the consequences of which no one can foretell;" and I may also notice that Mr. Alwis, a Member of Council, to whose opinion great weight is due, has deliberately stated that, in his judgment, a land tax would cause a rebellion, and could only be enforced at the point of the bayonet.

10. I should be sorry to think this a justifiable estimate of the popular temper, but after careful consideration I am satisfied that any immediate imposition of this form of tax would be unadvisable. I do not, however, desire to be understood as expressing the opinion that it would be impossible to introduce at some future time a judicious system of land taxation.

11. It is, indeed, to be observed that the compulsory commutation now proposed is practically nearly equivalent to a land tax, extending merely to rice-growing lands; and the introduction of this system of commutation will in all probability tend to familiarise the minds of the population with the idea of such a form of tax, and lead them to regard it more favourably than could be expected if it were now imposed.

12. With regard to the cost of the preliminary surveys, I observe that Colonel Fyers has stated that in order to make a full cadastral survey of all the private lands in the Colony within a period of seven years, he would require an addition to his staff of 120 men and an annual outlay of about £42,000 per annum for seven years, but I also notice that he has suggested a cheaper and simpler plan, by which a return of the extent of paddy land sufficiently accurate for the purpose could be obtained within a few months: this proposal may for some reason with which I am unacquainted be an impracticable one, but it scarcely seems to have received from the Commission the consideration which it deserves.

13. I would also refer you to my despatch No. 10 of the 18th of February and to other correspondence which has taken place relative to the proposal to carry on the trigonometrical survey of India as far as the South of Ceylon. Such a proposal deserves fresh attention in connection with the present subject, and the expediency of having a full cadastral survey of all the private lands in the Colony has already been recognised. It may possibly be found desirable to incur further expenditure in temporarily increasing the staff of the Survey Department, with a view to taking active steps in the direction which I have suggested.

14. From the foregoing remarks you will understand the general nature of the opinions which, as at present advised, I am inclined to entertain with regard to the retention or abolition of the taxes on grain, and on the merits of a land tax, considered as a substitute for them, but before coming to any definite conclusion I desire to have the advantage of your opinion upon the points which I have now raised, accompanied by any further information which may assist me in forming my judgment on the matter.

I have, &c.,
M. E. HICKS-BEACH.

GRAIN TAXES.

PAPERS.

No. 2.

Enclosure in No. 3.

MEMORANDUM by the Hon. A. N. BIRCH, C.M.G.

In reply to Sir Michael Hicks-Beach's questions—To what extent wine, spirits, beer, and tobacco are taxed; whether they would bear more, and if not, why not; and how far they are consumed by the whole population, especially by the natives—I have to report that the Customs dues at present levied are, on wine imported in the wood, 1*s.* a gallon; wine imported in bottle, 2*s.* 6*d.* a gallon; malt liquor in the wood, 3*d.* a gallon; malt liquor in bottle, 4*d.* a gallon.

Spirits pay 5*s.* a gallon under proof, 6*s.* proof and 10° above proof, and an additional 1*s.* a gallon for every additional 10° over proof.

The license to sell liquor varies from £3 to £25 per annum.

Tobacco pays, on cigars and snuff, 1*s.* per lb.; manufactured tobacco, 4*d.* per lb.; unmanufactured, 2½*d.* per lb.

(To simplify the calculations I have taken the rupee at 2*s.*)

The Customs revenue collected on these articles in 1876 was: wine, £5,102: spirits, £30,085; beer, £3,287; tobacco, £2,992.

The amount of wine annually imported does not exceed 50,000 gallons, and of this over 50 per cent. is light claret.

The importation of malt liquor is increasing with the increasing number of European planters settling in the Island. Last year over 300,000 gallons were imported, but not more than 220,000 of this was for Island consumption.

The increase in the importation of spirits is not large, and is not more than the growing prosperity of the Colony justifies. I am not prepared to recommend any addition to the present Customs rates on wine, beer, and spirits, which would make any appreciable difference to the revenue.

The consumption of wine and beer is limited to the European and Eurasian population. It is true that a certain amount of the imported spirits finds its way into native taverns, but the policy of the Government has been to restrict the number of these taverns in the rural districts and the licenses to sell by retail has been increased from £2 10*s.*, £5, £10, to £3, £10, £25.

The present import duties on spirits are high, and I believe that any increase to existing rates would only act as a further inducement to increase the local manufacture of a more deleterious concoction from methylated spirits, which has already been pursued with sufficient success to justify special legislation to mitigate the growing evil.

Tobacco is largely consumed by all classes, but the difficulty of raising a fair revenue from this legitimate source has been frequently pointed out.

Sir E. Tennent, in 1846, referred to the tobacco trade, which had formerly flourished to a very considerable extent (producing an average revenue for a few years of from £9,000 to £10,000 per annum from the export tax) as having been absolutely annihilated by the said export tax then levied on Island-grown tobacco. Since the abolition of the tax the cultivation of tobacco has been successfully carried on on a large scale in the north and in portions of the Western Province, and nearly 40,000 cwts. was exported to India in 1876. There is now scarcely a village in the interior where a garden patch of tobacco may not be found. But the competition with India still exists to so great an extent that I question if the re-imposition of the export tax would not be certain to again cripple this industry, which gives employment to a numerous class of natives. While Ceylon was exporting 40,000 cwts. of unmanufactured tobacco to India in 1875, Customs duty was paid on 29,305 lbs. of Indian-manufactured cigars, which can be purchased at from 3*s.* to 8*s.* per lb. in the local market, and on which a duty of 1*s.* per lb. is levied. During the same period only 546 lbs. of cigars were imported from Europe and 1,377 lbs. from Hongkong (Manilla). The consumption of tobacco by the natives is limited to that grown in the several districts, supplemented to a small extent by the manufactured tobacco imported from India. The present duty on the better classes of tobacco is light, but the consumption is so limited that the additional duty which might fairly be charged would make no appreciable difference in the revenue returns, and I see no way of fairly taxing the cheaper class of tobacco unless a general land tax is decided upon.

With the exception of cotton goods the consumption of foreign articles by the bulk of the native population is limited. In a recent despatch Sir J. Longden expresses a doubt whether the revenue could be substantially increased by the imposition of any new duties, as the consumption of dutiable goods by the mass of the native population is very limited. In support of this statement it may be noted that, excluding the revenue from imported grain, and the duty levied on cotton goods and spirits, the total Customs receipts derived from the numerous articles enumerated in the schedule attached to the Customs Ordinance (on which an *ad valorem* duty of 5 per cent. is levied) as well as the amount received on wine, beer, and tobacco does not in the aggregate amount to £50,000 per annum. I do not consider that any material addition to the import dues, sufficient to compensate in any degree for the loss of revenue by the abolition of the grain taxes, could be fairly levied.

The burden of any addition to the present Customs dues on what may be termed luxuries would mainly fall on the small European and Eurasian population, as, excluding the coffee estates owned by Europeans, foreign luxuries are almost unknown outside the chief towns of the Island.

The consumption of arrack (a spirit distilled from the cocoanut palm) is greatly on the increase. The revenue derived from this item of taxation exceeded in 1876 one-seventh of the total revenue, and amounted to £217,436. Under the existing system Government fixes the number of taverns licensed to sell arrack in each district and fixes the price at which arrack shall be retailed, which is generally about 400 per cent. over the price at which it can be manufactured.

The monopoly to sell within each district is then annually sold by public auction, and although the number of taverns has, in the past five years, been reduced from 1,494 to 1,002, or say an actual reduction of 402 taverns, and the retail price of arrack raised from about 4*s.* 9*d.* to 6*s.* 4*d.*, the revenue from this source has increased in the same period from £160,000 to £217,400. I am in favour of an alteration in the system of farming this revenue to check the present illegal sale at the private distilleries. If my scheme is adopted, I believe the revenue from this source will be increased, but I am opposed to further raising the price of this spirit, and every endeavour should be made to reduce the number of existing taverns in the rural districts.

The Government salt monopoly gave a revenue of £78,481 (less cost of collection) in 1876, the rate charged at the Government stores being 2 rupees and 36 cents, or say ½*d.* a pound. The consumption of salt is increasing and will continue to increase as the means of communication with the interior improve. The expense of collection and storage vary in the different localities. Prison labour is utilized at the larger lagoons, and the average cost may be taken at from 3*d.* to 4*d.* a bushel. In its practical operation this monopoly is the nearest approach which indirect taxation is capable of making to a direct poll-tax.

In a country which subsists so largely on a vegetable diet, it falls universally, but in the smallest and unfelt proportions, upon every member of the community. Excluding the amount exported, the present sale gives an annual consumption of about 12 lbs. a head at an expense of about 6*d.* each to every class of the inhabitants. It may be said that if the grain taxes were abolished the salt tax is the only tax that would reach at least one-third of the population engaged in agricultural pursuits, and that this portion of the community would be freed from the duty of paying their fair proportion of the expenses of the general government, education, hospitals, the progress in opening up the country, and the general improvements which are proceeding throughout the Island.

The subject of the salt tax has on more than one occasion been enquired into. In 1846 it was proposed to increase the rates charged at the Government stores, but this idea was abandoned, and more recently the question of abolishing this monopoly has been considered. The reports, however, received from the most competent officials convinced both Sir W. Gregory and his predecessor, Sir H. Robinson, that the throwing open of the salt trade would, instead of being a boon to the native consumer, be of disadvantage to him, and often inflict great hardship upon him. The trade must then fall into the hands of native speculators of small capital and of small forethought. The large stores of salt always kept up by the Government to meet the deficiencies of bad years would not be maintained, and jobbery and extortion would replace the present system, which upholds regularity of price, unfailing supply, and which presses so lightly on the consumer—about 6*d.* a head per annum, as I before remarked.

Sir W. Gregory, after five years' careful consideration of the system of taxation in Ceylon and with a strong desire to revise it, arrived at the conclusion that no equivalent for the duty on imported and home-grown grain was to be found except a general land tax involving, from his calculations, a loss to the revenue of from £60,000 to £70,000 per annum, and the Grain Commission arrived at the same conclusion so far as relates to the equivalent.

It has been argued by those who desire the abolition of this tax that the elasticity of the revenue would justify its total abolition without any further taxation in substitution of the present impost, and they point out that while the progress of the Colony in the past ten years has been very marked, the revenue from the grain tythe has not increased in proportion to the general prosperity. The elasticity of the revenue has enabled the Government to prosecute with vigour the construction of roads and bridges, to establish hospitals in every district, to restore irrigation works, and undertake other reproductive public works which have largely contributed to the increasing prosperity, and are of enormous benefit to the people generally.

There is still much to be done in opening up the country and restoring tanks and irrigation channels, and I should regret to see any reduction at present in the light taxes which are now cheerfully paid. For several years to come the increasing revenue can be most profitably spent in the general improvement of the people, and I do not admit that the tythe or rent charge has tended to interfere with the cultivation of rice. In support of this opinion it may be noted that the cultivation of rice over the 370,010 acres of temple lands held free of all tythe or tax and including some of the best rice lands in Ceylon has not progressed to any greater extent than the cultivation on other lands during the same period. Sir W. Gregory, in the 16th paragraph of his despatch of January, 1877, shews that the grain tythe has risen from £37,906 in 1836 to £110,004 in 1875, and has all but doubled in twenty years. The comparatively slow progress in extending the cultivation of rice may be attributed to many causes. In the vicinity of the chief towns and in the coffee districts the more remunerative employment of the carting traffic in

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coffee, rice, manure, &c., has attracted large numbers of Sinhalese cultivators to this new field of labour, and paddy lands have been converted into grass fields for the largely increasing number of foreign cattle required for this traffic. Many agriculturists in those districts where, through the gradual destruction of tanks and the undoubted change of climate, the cultivation of rice is at best hazardous, have elected to seek employment under the Public Works Department, where they are sure of regular and remunerative wages; while in other more remote districts it is within my personal experience to have seen paddy left on the fields and lands ready for cultivation left barren because a previous good harvest had filled the village granaries, and from want of communication with the more populous districts there was no local demand for surplus produce. On the other hand, it may be noted that in those districts where roads and bridges have been constructed and tanks repaired, cultivation is largely increasing, and in the districts I refer to the cultivator not only pays the tythe, but in most instances also makes an annual payment of 2*s.* an acre towards the re-payment of the original outlay in the restoration of the irrigation work under which his land is situated.

In support of this statement I would draw attention to the progress made in the two districts in which the improvement and restoration of irrigation works has been systematically carried on. I find that 1865-6 represent two average years prior to the expenditure on irrigation works, and taking these years and 1875-6 we find—

		Bushels		Bushels.
Batticaloa, Eastern Province...	1865	490,114	1875	742,857
	1866	589,734	1876	735,140
Nuwarakalawiya, North-Central Province ..	1855	32,187	1875	216,970
	1866	71,009	1876	284,409

It should be remembered that paddy lands differ from coffee and other plantations in this respect, that whilst the proprietors of the latter have obtained possession of them by purchase from the Crown, the owner of the rice field was originally a tenant on sufferance without any purchase whatsoever, and that his present assessment includes not only a tax to the Government, but an actual rent on his farm. The land tax or tythe is the realization of a principle with which the Sinhalese are universally familiar, that the soil is the undisputed property of the Crown, and that the Government is entitled to a share in its profits. To abolish this source of revenue at present or until the Government surveys have so far advanced as to enable a fair general land tax to be substituted, would leave nearly one-third of the people of Ceylon comparatively free from taxation. If the revenue continues elastic, I should be glad to see the whole of the revenue derived from the grain tythe devoted to restoration of the irrigation works throughout the Island, and I am satisfied that this policy will tend more to the ultimate benefit of the native population than the relief now sought to be obtained by the abolition of a tax which is willingly paid by those on whom it falls.

In conclusion, I think it right to mention as a powerful argument against a land tax, that it was formerly tried but repealed by Sir Edward Barnes, owing to the universal discontent which it engendered. The present paddy tythe is a portion of that tax which it was found could be collected without difficulty and disturbance. It is, in fact, a rent to the Crown which was remitted in other cases as a boon, and so it should, I submit, be regarded.

I attach to this paper a paragraph from the original draft report prepared for the Grain Commission shewing the relative taxation of the Sinhalese and Indian cultivator; also, a memorandum from Mr. Elliott of the C.C.S., shewing that while the Indian system of land tax is held up as a model for Ceylon to follow, the corruption complained of under the Ceylon system is probably more prevalent in India than in Ceylon.

7th May, 1878. A. N. BIRCH.

XXX.

RAILWAY EXTENSION TOWARDS BADULLA.

REPORTS UPON AN ALTERNATIVE LINE, NO. 2.

HAPUTALE TOWARDS ELLA.

(*In continuation of Sessional Paper No. VI. of* 1878.)

Ordered by His Excellency the Governor to be Printed.

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1878.

REPORTS

FROM

AN ALTERNATIVE LINE NO. 2.—HAPUTALE TOWARDS ELLA.

RAILWAY EXTENSION

FURTHER PAPERS

From the CHIEF ENGINEER, Railway Extension, to the Hon. the COLONIAL SECRETARY.

Alternative Line No. 2.—Haputale towards Ella.

No. 230. Nuwaraliya, 31st October, 1878.

SIR,—In forwarding for the information of His Excellency, and for transmission to the Consulting Engineer, a copy of Mr. Ferrar's plans and report dated 17th instant, on alternative Line No. 2 from Haputale towards Ella, I have the honor to submit the following remarks:— (14 sheets plans and section, 1 sketch plan.)

2.—In November last I examined with Mr. Ferrar the country between Haputale and Badulla, especially the portion to Ella, over which the preliminary Line No. 1 had been surveyed by him in 1875. I found the country very rough, and the Line unfavourable in the following respects:—1st, length of gradient of 1 in 44: 2nd, length of sharp curves; 3rd, heavy character of the works. (Line No. 1. See Mr. Ferrar's reports in Sessional Paper XXV., 1876.)

3.—The length of gradient of 1 in 44 is caused by the summit on Line No. 1 being at Rochampton (Y on sketch plan) two miles from Haputale (X on sketch plan): and a tunnel through the Rochampton spur being, on account of expense, prohibitory, it is impossible to commence a descending gradient at Haputale unless another route be chosen.

4.—The only method of obtaining a gradient descending from Haputale is to go round the Rochampton spur (see Z on sketch plan), and this route unfortunately encounters the heavy spurs and ravines between Haputale and Bandarawela, shewn on section from 1st to 7th mile. (Line No. 2)

5.—The comparison of Line No. 2 with Line No. 1 is as follows:—

	Line No. 2	Line No. 1	Increase	Decrease.
Length	11 m. 14 chs.	12 m. 2½ chs.	—	68½ chs.
Number of curves	75	89	—	14
Length of curves	538 chs.	687 chs.	—	149 chs.
Per-centage of curve	60·21	71·42	—	11·21
Length of straight	355 chs.	275 chs.	80 chs.	—
Per-centage of straight	39·79	28·58	11·21	—
Length of 1 in 44	6 m. 55 chs.	10 m. 62 chs.	—	4 m. 7 chs.
Approximate estimate of cost of *way and works only*	Rs. 2,704,490	Rs. 1,838,752	Rs. 862,747	—
Do. per mile	Rs. 241,745	Rs. 152,832	Rs. 88,913	—

6. From this it appears that in every item except cost, viz., as regards length, curvature, and gradients, Line No. 2 has a decided advantage over Line No. 1, and although from the rough country through which Line No. 2 runs, the works were expected to be heavy, I did not anticipate that the estimated cost would be by any means so large. Some improvements and consequent saving could doubtless be made on setting out the Line permanently, but assuming that Mr. Ferrar's approximate estimates are correct, the additional cost of Line No. 2 renders it prohibitory, especially as the sum named provides for *way and works only.*

7.—Adding to these figures for land, supervision, and rolling stock, the same sum as is provided in the estimate from Nanu-oya to Haputale, viz., 34,546 rupees per mile, the totals become (See Sessional Paper VI., 1878.)

	Line No 2. Rs	Line No 1. Rs.	Increase Rs.
Approximate estimate of cost	3,087,550	2,254,384	833,166
Do. do. per mile	276,291	187,378	88,913

8.—As regards general convenience afforded to the district, there is not in my opinion much difference between the two Lines. No. 1 is decidedly better situated for the coffee estates, and No. 2 is more convenient to the public in general.

9.—Mr. Ferrar's report being so detailed it is merely necessary to summarise it in this letter. I regret that from his report No. 101 of 25th instant (copy annexed) it would appear impossible to reduce the cost of Line No. 2.

RAILWAY EXTENSION.

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See 6th paragraph.

See copy of my letter No. 103, 25th instant, annexed.

10. Although the result of Line No. 2 is unsatisfactory, there can be no doubt as to the policy of making the survey; the points on which it was anticipated that Line No. 2 would be superior to Line No. 1 have proved to be so, and the comparative cost could only be ascertained after the survey had been made. In other words, when any line is unfavourable others should be tried, even if they prove worse; the trial shews the best route to be taken.

11. Mr. Ferrar has therefore been instructed to set out permanently and estimate Line No. 2 from Haputale to Ella. Seven miles from Badulla towards Ella have already been thus treated.

The illness of Mr. Williams may unfortunately delay the completion of this survey, but I hope it will be finished early in February next.

I have, &c.,

J. R. MOSSE.

Enclosure No. 1.

Mr. FERRAR to the CHIEF ENGINEER, forwarding Plans and Estimates.

Badulla District, 17th October, 1878.

14 sheets.

SIR,—I HAVE the honor to forward herewith tracings of preliminary plan and section and quantities, and estimate of an alternative trace, from Haputale towards Ella, meeting my original trace between those places at twelve miles from Haputale, together with a comparison of the respective traces in regard to route, curves, gradients and cost, and my opinion of their advantages and disadvantages. In this report the original line will be termed Line No. 1. The alternative line will be termed Line No. 2.

2. When I took charge of the Badulla district in 1875 I made a general examination of the country, the effect of which was to shew me that the most promising route for a railway between Haputale and Badulla consisted in taking it to the Ella pass.

See sketch plan annexed to tracings.

There were two routes by which the Ella pass could be attained. The first of these is Line No. 1, the other Line No. 2.

I decided on surveying Line No. 1 in consequence of the fear I had of the ravines in Rochampton and Kahagalla estates and also of the deep valley near the 19th mile-stone on the main road from Badulla to Haputale on Line No. 2. Line No. 1 was accordingly surveyed.

3. In November, 1877, I had the honor of shewing you the district, which was thoroughly examined in company, and I had the benefit of your judgment in deciding that Line No. 2 in its general direction and position gave the only route by which we could hope for a more favourable result than that given by Line No. 1. Every likely looking deviation on Line No. 2 has been surveyed.

General description

4. Line No. 1 has already been fully described in my report of November 9th, 1875. It was estimated for as a line with a minimum limit of curves of five chains radius on the ground of economy. I have altered these curves in all cases to a limit of six decimal thirty-six chains radius, and have added the necessary quantities to the earthwork and masonry, for the purpose of fair comparison with Line No. 2.

5. Line No. 2 leaves the Haputale bazaar at the same spot as Line No. 1. It begins with a falling gradient of 1 in 44 for a distance of 4 miles 30 chains, passing through the Haputale, Rochampton and Kahagalla coffee estates, and crosses the main road from Badulla to Haputale between the 19th and 20th mile-stones. Near this place I purpose placing a station.

The line on this portion is of a very difficult character. Two deep ravines in Rochampton estate, perpendicular rocks beyond, and two deep ravines in Kahagalla estate at 4 miles.

These latter ravines render a gradient of 1 in 44 obligatory, although this gradient is not adapted to the nature of the ground, as, if it were not adopted, the ravines would be too low for the railway to pass over except at an extraordinary cost. A large amount of cutting to spoil is incurred by the gradient being unfavourable, the side-long nature of the ground, sloping as it does from 1 in 3 to 1 in 6, is the cause of much spoil; and as on these slopes I have kept the line as much as possible in the solid, it has been impracticable to equalize the cuttings and embankments.

At 4 miles and 20 chains there is a short tunnel; at 6 miles the line crosses a deep valley 60 feet above it, and passes in tunnel under the estate road from Bandarawela to Nyabedda; it then returns to the main road, the course of which it follows as far as the Bandarawela rest-house. I should have liked to have placed the station here, but the nature of the ground renders it too expensive. Leaving the rest-house to the west, the line contours along the hills till it comes to a saddle nearly opposite the 17th mile-stone. From

here two deviations were surveyed, both of which are inferior to the line adopted. The line tunnels under the saddle, and keeping nearly due east, it crosses the Ella river with a viaduct 88 feet high and 160 feet long, and, passing through moderately easy country, joins line No. 1 at 12 miles.

All the remarks in my report of November, 1875, on line No. 1 in respect of slips, geological nature of ground, &c., apply equally to line No. 2, as it is on the same range of hills at a lower elevation.

		M.	Chs
6.	Total length of line No. 1 to junction	12	2½
	Total length of line No. 2 to junction	11	14
	Difference in favour of line No. 2	0	68½

7. An analysis of gradients is appended; this is greatly in favour of line No. 2, there being four miles less of 1 in 44 on line No. 2 than on line No. 1. I think it will however be possible to alter 1½ mile of 1 in 44 to 1 in 75 on line No 1, as this gradient was occasioned by avoiding the Haputale forest reserve, which I now have permission to go through. Length. Gradients.

8. An analysis of curves on both lines is appended. I don't think there is much to choose between them, for while line No. 1 has a greater aggregate length of 6·36 chain curves, with one S curve, nearly semi-circular, line No. 2 has 20 chains of compulsory 5-chain curves. Curves

	M.	Chs.
Line No. 1 has 89 curves length	8	47·50
Straight	3	35

Per-centage of curve, 71 per cent.
Per-centage of straight, 29 per cent.

	M.	Chs.
Line No. 2 has 75 curves length	6	58·30
Straight	4	35·70

Per-centage of curve, 60 per cent.
Per-centage of straight, 40 per cent.

9. An estimate of the quantities of each line is appended, which is greatly in favour of line No. 1:— Quantities

	Line No. 1.	Line No. 2.
Earthwork ...	984,013 cubic yards ...	1,264,534 cubic yards
Rubble ..	22,469 „ ...	38,787 „
Ashlar ..	4,573 „ .	5,141 „
Retaining walls ...	1,553 „ ...	1,553 „
Iron . .	70 tons ...	240 tons
	M. Chs	M. Chs.
Permanent way ...	12 2½ ...	11 14
Tunnels, excavation ...	— ..	16,840 cubic yards
Tunnels, brickwork ...	— ...	3,502 „

10. An estimate of the cost of each line on these quantities is appended. The prices are the same on both lines, and are those given by the Kandy Committee; but in neither case does this represent an estimate of the total cost of the line:— Cost.

Cost of line No. 1	Rs. 1,838,752
Cost of line No. 2	„ 2,701,499
Difference in favour of line No. 1 ...	„ 862,747

11. The advantages of line No. 1 consist in its less expensive works, for though there are places where the works are extremely heavy, these are compensated for by long portions of easy ground. In my opinion line No. 1 would serve the coffee districts better than line No. 2, as the station at 5 miles at Nyabedda would be more convenient for them than that at 4 miles and 30 chains on line No. 2. There is also the opportunity of putting a station near 9 miles, as mentioned in my report of November, 1875. This station would attract a large amount of traffic from the Lemastota side of the Haputale range, if the road is put into good order for tavalam bullocks. Advantages of line No. 1.

There are as many native villages on line No. 1 as on line No. 2, although Bandarawela is a bigger place than any village on line No. 1; but Bandarawela would be within two miles of the station on line No. 1, in Nyabedda, and is quite as far from the station proposed on line No. 2.

There are no tunnels on line No. 1. Line No. 1 will cost 860,000 rupees less to make.

12. The disadvantages of line No. 1 are its greater length (68 chains); its inferior gradients, every train requiring two engines (these inferior gradients are caused by the necessity on line No. 1 of rising about 120 feet above the level of Haputale pass, before it is possible to fall to Ella, whereas line No. 2 begins to fall immediately after leaving the pass); its distance from the main road, as the contractor will have to make a road for construction purposes, and the Government will have to take over the estate road to Nyabedda. Disadvantages of line No. 1.

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Advantages of line No. 2.

13. The advantages of line No. 2 are its shorter length (68 chains); its better gradients, although as two lengths of 1 in 44 are separated by only four miles, it is questionable whether it would be possible to save an engine, and whether in practice the two engines would not always run over this four miles (if it were decided always to run two engines on this line, it might be possible to save some 100,000 rupees by altering and cutting up gradients); its proximity to the main road, which would save a contractor's road for some distance. I do not think the station at 4 miles on line No. 2 in any way superior to the station at 5 miles on line No. 1. If the station could have been put at Bandarawela, it would have been superior, as when the road is made from Madawela to Bandarawela traffic might have been attracted from Uda Pussellawa; as this is prohibited on account of expense, the station on line No. 1 is quite as good as the station on line No. 2 for Madawela traffic.

14. The disadvantages of line No. 2 are its heavier works and greater cost.

15. Balancing the advantages and the disadvantages of the two lines, I am of opinion that the original line No. 1 should be constructed.

16. Mr. Williams, Mr. Greswell, and Mr. Dancer have assisted me in the preliminary survey of line No. 2 with energy and skill, for which I express my thanks.

I have, &c.,

W. G. FERRAR, M. Inst. C.E.,
Resident Engineer, Matale Extension.

RAILWAY EXTENSION.

Appendix A.

ANALYSIS OF GRADIENTS.

LINE No. 1. Miles.	Chains.	HAPUTALE to ELLA.	LINE No 2. Miles.	Chains
10	62	1 in 44	6	55
—	26	1 in 55	—	—
—	—	1 in 66	—	73
—	—	1 in 80	1	73·5
—	35·5	1 in 88	—	—
—	—	1 in 90	—	19
—	—	1 in 132	—	28
—	39	Level	1	5½
Total ... 12	2·5		11	14

ANALYSIS OF CURVES.

LINE No. 1 Length in Chains.	No. of Curves	Radius in Chains Chains.	No of Curves	LINE No. 2 Length in Chains.
—	—	5· 0	one	11·70
—	—	5·70	one	9·40
415·50	forty-nine	6·36	forty-nine	339· 0
—		8 0	seven	70·10
93· 0	twelve	8·51	—	—
9· 0	one	9· 0		—
3·80	one	10 0	thirteen	79·60
106 0	sixteen	11· 0	two	13·70
18· 0	three	15· 0	one	8·50
30·10	five	20· 0	one	6 0
6·30	one	22· 0		—
5·70	one	30· 0		—
Chs. 687·50	eighty-nine		seventy-five	538·30

LINE No 1	Miles	Chains	LINE No. 2	Miles	Chains
Curves ...	8	47·50	Curves ...	6	58·3
Straight	3	35· 0	Straight	4	35·7
Total length ...	12	2·50	Total length ..	11	14·0

	Miles.	Chains.		Miles	Chains
Per-centage of curve	71	42	Percentage of curve ...	60	21
Per-centage of straight ..	28	58	Percentage of straight .	39	79

See Appendix B. & C.

HAPUTALE TO ELLA.—LINE No. 1.

Abstract of Quantities to 12 miles 2½ chains from Haputale.

Earthwork ... 565,394 c. yds in cutting
Side cutting ... 276,322 c. yds.
Add for change to 6·36 curves and sloping ground ... 142,297 c. yds. 984,013 c. yds. = Earth. 656,009 c. yds. + Rock. 328,004 c. yds.
Culverts 0 to 133 = 16,049 c yds.
Add 2/5 for comparison 6,419 „
22,469 c yds.
Ashlar 0 to 133 = 715 c. yds.
Add 2/5 286 „
Add ashlar in copings, &c. 572 „
1,573 c. yds.
Retaining walls 1,553 c. yds.
Iron work 35 tons
Add 35 tons for iron girder instead of timber tops 35+35 = 70 tons

* Treble 2 ft. culverts abandoned and arched culverts substituted on line No. 2.

Abstract of Quantities.—Line No. 2.

				Earth.	Rock
Earthwork ...	1,256,300 c. yds. in cuttings.				
Side cuttings ...	8,234 „	1,264,534 c. yds. =		843,023 c. yds.	+ 421,511 c. yds.
Rubble ...		...		38,787 „	
Ashlar ...		...		5,141 „	
Retaining walls ...		..		1,553 „	
Iron work ..		...		240 tons	
Tunnel excavation ...	16,840	...		16,840 c. yds.	
Do. brickwork ...		...		3,502 „	

RAILWAY EXTENSION.

FURTHER PAPERS.

See Appendix B.

HAPUTALE TO ELLA.—LINE No. 2.

Summary of Earthwork Quantities.

Cuttings.

No.	Cubic yards.	No.	Cubic yards.	No.	Cubic yards.
1	4,219	33	568	65	29,201
2	1,578	34	37,477	66	5,803
3	3,867	35	48,731	67 & 68	46,847
4	11,779	36	446	69	1,044
5	2,148	37	17,875	70	3,187
6	5,788	38	1,432	71	17,696
7	10,741	39	2,034	72	1,244
8	7,770	40	2,185	73	4,127
9	1,890	41	4,267	74	980
10	13,046	42	1,421	75	91
11	283	43	9,472	76	10,026
12	49,397	44	8,880	77	45,859
13	15,340	45	9,341	78	17,177
14	70,391	46	25,240	79	15,119
15	36,572	47	895	80	1,889
16	1,258	48	22,951	81	941
17	15,425	49	5,466	82	8,340
18	9,800	50	7,707	83	11,069
19	29,532	51	57,052	84	24,433
20	55,863	52	15,943	85	19,156
21	13,059	53	9,991	86	16,192
22	7,573	54	17,370	87	21,431
23	3,304	55	397	88	425
24	8,548	56	21,150	89	7,936
25	4,842	57	766	90	1,047
26	14,259	58	12,509		
27	19,380	59	16,781		
28	31,833	60	25,335		
29	356	61	16,170		
30	1,676	62	29,241		
31	3,404	63	19,234		
32	4,561	64	9,261		
					1,256,300
				Side cutting ...	8,234
					1,264,534 c. yards.

Cutting to embankment	631,410	Cubic yards.
Cutting to spoil ...	624,890	
	1,256,300	Cubic yards.

HAPUTALE TO ELLA.—LINE No. 2.

Summary of Earth work Quantities.

Embankments.

No.		Cubic yards	No.		Cubic yards	No.		Cubic yards.
1	—	152	34	—	2,341	66	—	10,871
2	—	1,063	35	—	69,900	67	—	1,942
3	—	3,063	36	—	13,308	68	—	2,859
4	—	11,153	37	—	1,504	69	—	634
5	—	99	38	—	9,252	70	—	1,296
6		226	39	—	1,583	71	—	2,473
7		3,104	Station	—	10,209	72	—	121
8	—	3,720	40	—	2,178	73	—	208
9	—	2,387	41	—	1,246	74	—	159
10	—	902	42	—	7,991	75	—	761
11	—	193	43	—	4,631	76	—	11,906
12	—	542	44	—	11,729	77	—	12,734
13	—	21,621	45	—	137	78	—	4,394
14	—	632	46	—	2,594	79	—	7,255
15	—	10,654	47	—	3,806	80	—	274
16	—	12,368	48	—	4,196	81	—	1,918
17	—	477	49	—	3,008	82	—	1,894
18	—	8,189	50	—	10,965	83	—	463
19	—	254	51	—	26,426	84	—	141
20	—	31,117	52	—	6,682	85	—	29,003
21	—	9,256	53	—	3,624	86	—	9,753
22	—	4,211	54	—	4,371	87	—	1,230
23	—	3,433	55	—	6,139	88	—	2,952
24	—	10,487	56	—	5,664	89	—	13,214
25	—	8,567	57	—	529	90	—	418
26	—	43	58	—	3,058			
27	—	3,749	59	—	3,280			639,649 c. yards
28	—	21,124	60	—	467			
29	—	254	61	—	45,805	Side Cutting E.	24	3,043
30	—	4,475	62	—	28,091		42	2,303
31	—	410	63	—	9,445		44	2,888
32	—	2,739	64	—	457			
33	—	60	65	—	37,435			8,234

From Distribution on Section.

Cuttings. No.	Spoil. Cubic yards.	Cuttings. No.	Spoil. Cubic yards.	Cuttings. No.	Spoil. Cubic yards.
1 ...	1,519	27 ...	5,380	67 & 68 ...	43,988
2 & 4 ...	4,394	28 ...	19,984	69 ...	410
5 ...	1,922	29 ...	356	70 ...	1,891
6 ...	2,684	30 ...	1,266	71 ...	15,223
7 ..	7,021	31 ...	665	72 ...	1,123
8 ...	5,383	32 ..	3,728	73	3,919
9 ..	988	35 ...	2,000	74 ...	821
10 ..	12,853	44 ...	4,743	76 ...	3,542
12 ...	33,517	45 ...	6,747	77 .	27,033
13 ..	8,708	46 .	19,434	78 ...	12,783
14 ...	59,737	48 .	13,642	79 ...	7,864
15	24,204	51 ...	31,142	80 ..	1,615
16 ...	761	52 ...	12,319	82 ...	5,469
17 ...	37,236	53 ...	5,620	83 ...	10,606
18 ...	9,546	54 ...	5,964	84 ...	16,445
19 .	8,415	56 ...	18,329	86 ...	4,439
20 ..	36,607	58 ..	5,073	87 .	13,025
21 ...	8,848	62 ...	9,970		
25 ...	4,780	65 ...	6,838	Cubic yards ..	624,890
26 ...	10,510	66 ...	1,861		

See Appendix C.

MASONRY.

Haputale to Ella.—Line No. 2.

No	Description	Length feet.	Rubble cub. yds.	Ashlar. cub. yds.
2	6 feet arch	50	100	26·65
3	2—2 feet	—	—	
4	6 feet open	18	18	
5	6 feet open	18	18	
6	6 feet open	18	18	
7	6 feet arch	55	110	29·32
8	6 feet open	18	18	
9	2 feet	59	37	
10	6 feet arch	44	86	23 45
11	2—2 feet	30	33	
12	6 feet arch	57	114	30 40
13	6 feet arch	44	86	23 45
14	6 feet open	18	18	
15	6 feet open	24	24	
16	6 feet open	18	18	
17	6 feet open	18	18	
18	20 feet arch	120	1,392	506 80
19	6 feet open	18	18	
20	6 feet arch	38	76	20·25
21	6 feet open	18	18	
22	6 feet open	18	18	
23	Diverted			
24	12 feet arch	111	865	178·71
25	20 feet arch	82	964	209 62
26	6 feet arch	37	74	19·72
27	20 feet arch	44	631	112·44
28	6 feet open	18	18	
29	12 feet arch	183	1,333	294·63
30	20 feet arch about 20 feet to springing	215	3,548	549 63
31	Viaduct 2—60 feet span, 32 feet high	—	650	76·00
32	2 feet	50	35	
33	2—2 feet	58	61	
34	2—2 feet	104	107	
35	2—2 feet	56	59	
36	6 feet open	18	18	
37	6 feet open	18	18	
38	6 feet arch	100	200	53·32
39	6 feet arch	103	206	53·93
40	6 feet arch	75	150	40·00
41	2 feet	18	15	
42	12 feet arch	74	624	119·10
43	20 feet girder	18	150	
44	2 feet	68	45	
45	6 feet open	18	18	
46	2—2 feet	77	80	
47	6 feet open	18	18	
48	40 feet arch	138	8,032	674 36
49	6 feet open	18	18	
50	6 feet open	18	18	
51	Viaduct 100 feet 24 high	18	650	76 00
52	20 feet girder 18 feet high	18	200	
53	12 feet arch	99	784	159 39
54	2—2 feet	58	61	
55	6 feet arch	50	100	26 65
56	6 feet open	18	18	
57	2—2 feet	58	61	
58	2—2 feet	71	74	
59	6 feet arch	55	110	29 32
60	2—2 feet	58	61	
61	6 feet arch	71	142	37·85
62	6 feet arch	82	164	43 72
63	2—2 feet	58	61	
64	6 feet open	18	18	
65	6 feet open	18	18	
66	6 feet open	18	18	
67	6 feet open	18	18	
68	Retaining wall 2—2 feet	18	18	
69	6 feet open	18	18	
70	Retaining wall 2—2 feet	18	18	
71	60 feet girder 38 feet high	—	650	76·00
72	2—2 feet Retaining wall	18	18	
73	2—2 feet	70	73	
74	40 feet arch	81	5834	395·82
77	12 feet arch	72	612	116 92
78	6 feet arch	94	186	49·60
79	6 feet arch	81	162	43·20
80	6 feet arch	48	96	25·60
81	6 feet arch	78	156	41·60
82	6 feet arch	66	132	35·20
83	6 feet open	18	18	
84	2—2 feet Retaining wall	18	18	
85	2—2 feet Retaining wall	18	18	
86	6 feet arch	40	80	21·32
87	6 feet open	18	18	

RAILWAY EXTENSION.

FURTHER PAPERS.

MASONRY.—*contd.*

No	Description.	Length. feet.	Rubble cub. yds.	Ashlar cub. yds.
88	6 feet open	18	18	
89	6 feet arch	141	282	75 20
90	6 feet arch	147	294	78·40
91	6 feet arch	141	282	75·20
92	6 feet open	18	18	
93	6 feet open	18	18	
94	20 feet arch	174	1884	444 86
96	6 feet open	18	18	
97	6 feet open	18	18	
98	2—2 feet	112	117	
99	2 feet	80	55	
100	6 feet open	18	18	
101	2—2 feet	50	53	
102	2—2 feet	18	18	
103	2—2 feet	28	31	
104	2—2 feet	28	31	
105	6 feet open	18	18	
105*a*	6 feet open	18	18	
106	6 feet open	18	18	
107	2—2 feet	36	39	
108	Viaduct 2 spans 60 feet. Piers, abutment wings, &c		2209 650	76 00
109	20 feet Girder abutment 31 feet high	—	650	76·00
110	6 feet arch	90	180	48·00
111	6 feet arch	63	126	33·60
112	6 feet open	18	18	
113	6 feet arch	39	78	20 80
114	6 feet arch	39	78	20·80
115	6 feet open	18	18	
116	6 feet open	24	24	
117	6 feet open	18	18	
118	12 feet arch	105	826	172·05
119	2 feet	54	38	
120	2—2 feet	27	30	
121	2 feet	18	18	
122	2 feet	18	18	
123	2 feet	18	18	
124	2 feet	22	22	
125	2 feet	24	24	
126	2 feet	22	22	
	Total, cubic yards ...		38,787	5140 88

Appendix.—C.

HAPUTALE TO ELLA. Line No. 2 *Tunnels.*

	Miles. Chs	c. yds	
At	4 30	70 lineal yards at 16 64 per yard run	1164 80 c. yds
Excavation		70 + 80 = 5600 c. yds (in quantities allowed)...	
	Miles Ch	c. yds.	
At	6 00	81 lineal yards at 16·64 per yard run ..	1347·81 „
Excavation		81 + 80 = 6480 c. yds. (in quantities allowed)...	
	Miles. Chs.	lineal yds. c. yds	
At	8 20	59·5 × 16·64 = 990 08	990·08 „
Excavation		59·5 × 80 = 4760 c. yds	3,502·69 „
„		5,600 + 6,480 + 4,760 = 16,840 c. yds.	

Iron Work.

				Tons.
6 ft. Open culvert girders	39	at	½ ton	19·10
20 ft. Girders spans ...	3	at	2 tons ...	6·00
60 ft Girders spans ...	5	at	28 tons ...	140·00
100 ft. „ „	1	at	75 tons ...	75·00
			Total	240·10

Retaining Walls

At	2·45	...	479
„	5·18	...	234
„	5·34	...	220
„	5·47	...	160
„	6·52	...	99
„	6·57	...	361
			c. yds. 1,553

HAPUTALE TO ELLA.—ESTIMATES

Line No. 1.

Description.	Quantity.	Price. Rs.	Rupees.
Earthwork ... c. yds.	656,009	0 50	328,004
Rock ... „	328,004	2·00	656,008
Rubble masonry „	22,469	12·00	267,628
Ashlar ... „	1,573	50·00	78,650
Retaining walls „	1,553	4·00	6,212
Iron work	70 tons	300·00	21,000
Permanent way	miles chains 12 2½	40,000·00	481,250
			Rs. 1,838,752

Line No. 2.

Description.	Quantity.	Price. Rs.	Rupees.
Earthwork ...c. yds.	843,023	0 50	421,511
Rock ... „	421,511	2·00	843,022
Rubble masonry „	38,787	12·00	465,444
Ashlar ... „	5,141	50·00	257,050
Retaining walls „	1,553	4·00	6,212
Iron work	240 tons	300·00	72,000
Permanent	miles chains 11 14	40,000·00	447,000
Tunnels, Excavations c. yds.	16,840	5·00	84,200
Tunnels, Brickwork c. yds.	3,502	30·00	105,060
			Rs. 2,701,499

Difference in favor of Line No. 1 Rs. 862,747

Enclosure No. 2.

The CHIEF ENGINEER to Mr. FERRAR.

No. 103 A. Dimbula, 22nd October, 1878.

SIR,—I BEG to express my thanks for your plans and clear report on alternative line No. 2, dated 17th instant.

2.—Before sending these to Government I request your opinion whether by altering the gradient for the first four miles, so as to avoid most of the large quantity of spoil given at 624,890 cubic yards, it would not be possible seriously to reduce the cost, even after allowing for the increased height of viaducts thereby entailed.

3. I send by this post in a tin case your sketch plan of lines from Haputale to Badulla, with the request that you will be good enough to mark distinctly the Line No. 2 finally chosen, as well as any improvement you can make on Line No. 1, and mark also the seven miles of the line permanently set out from Badulla towards Ella. I request that your reply and the plan may as early as possible be returned to *this address*.

4. Regretting that the cost of Line No. 2 negatives its advantages as regards length, curves and gradients, I must request you to set out and estimate permanently Line No. 1, making of course every improvement in it which further examination may prove to be possible.

I am, &c.,

J. R. MOSSE.

Enclosure No. 3.

Mr. FERRAR to the CHIEF ENGINEER.

No. 101. Badulla, 25th October, 1878.

SIR, I HAVE the honor to acknowledge your letter of 22nd October. In reply to paragraph 2, I am of opinion that a large reduction of the quantity of spoil would not tend to economy, as the cost of masonry increases in a much quicker proportion than that of earthwork. In round numbers there are 300,000 cubic yards of spoil on the first four miles. Admitting a large portion of this could be saved if the gradient were raised, the increased volume of earth to embankment would require at least 100,000 cubic yards. I think it probable in any case there would be 50,000 cubic yards of spoil on the four miles from the nature of this ground, which would leave an economy of 150,000 cubic yards, or say 150,000 rupees. This, I am sure, would nothing like compensate for extra masonry. Taking the worst case, culvert 18 would require 2,840 cubic yards extra of rubble and 300 cubic yards of ashlar, or an addition in one culvert of 50,000 rupees—one-third of the saving on the four miles. Culverts 18, 24, 25, 27, 29, 30, 31, 42, 51, would roughly require 120,000 rupees extra, and many of the small culverts would be largely increased.

I return by this post the tin case containing the sketch plan with the information required.

I note your instructions to set out line No. 1 permanently.

I have, &c.,

W. G. FERRAR.

XXXI.

RAILWAY EXTENSION TO NANU-OYA.

DESPATCH from the Right Hon. the SECRETARY OF STATE for the Colonies sanctioning the introduction of an Ordinance for raising a loan of £1,000,000.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

Sir M. E. Hicks-Beach, Bart., to Governor Sir J. R. Longden, K.C.M.G.

Ceylon.
No. 249.

Downing Street,
19th October, 1878.

Sir,—I have the honor to acknowledge the receipt of your despatch No. 275 of the 13th of August, enclosing a report of the Railway Extension Commissioners, recommending certain increased rates of traffic upon merchandise to be carried over the projected line of Railway from Nawalapitiya to Nanu-oya. These rates will, in the opinion of the Commissioners, raise a sum sufficient to pay five per cent. upon the capital required to build the line, without impeding the development of traffic.

2. I am inclined to think, from a perusal of this report, that the Commissioners have suggested a scale of rates that will probably in the aggregate produce the sum required to cover interest and sinking fund on the large capital to be invested in this enterprise.

3. I do not think that any useful purpose would be served, were I to attempt a detailed examination of the distribution of these rates over the different classes of traffic. They should be looked upon as tentative, and subject to whatever revision experience may shew to be necessary. I would further observe that it must be clearly understood in the Colony, that these rates and the principle of meeting a deficit by special taxation, if necessary, should be accepted by the planting community irrespective of any further extension towards Haputale or Badulla. Subject to the above conditions, I see no objection to your at once proceeding to introduce to the Legislative Council an Ordinance similar to the last Railway Loan Ordinance to enable the Crown Agents to raise a sum not exceeding £1,000,000.

4. Although this Ordinance should be introduced without delay, I do not propose to instruct the Crown Agents to take any immediate steps under its provisions, as the market for Colonial securities is not at present in a favourable condition; and as it is desirable, before resorting to further borrowing on this side very largely, to reduce the existing cash balances now lying in the banks in the Island. On this point I will address you in another despatch.

5. You have also my authority for defraying the cost of the preliminary surveys in the manner you propose.

I have, &c.,

M. E. HICKS-BEACH.

XXXII.

SUPPLEMENTARY SUPPLY BILL, 1878.

REPORT of a SUB-COMMITTEE of the LEGISLATIVE COUNCIL appointed to report upon the Bill: "An Ordinance for making provision for the Supplementary Contingent Services for the year 1878."

Ordered by the Legislative Council to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

EXTRACT from the Minutes of a meeting of the Legislative Council held at the Council Chamber on Wednesday, the 20th November, 1878.

Resolved.—That the following gentlemen be appointed a Sub-Committee to report upon the Bill intituled:

"An Ordinance for making provision for the Supplementary Contingent Charges for the year 1878."

The Hon. J. DOUGLAS, C.M.G., Colonial Secretary.

The Hon. W. H. RAVENSCROFT, Auditor-General.

The Hon. W. D. WRIGHT, Principal Collector of Customs.

The Hon. J. VANLANGENBERG,
The Hon. J. P. OBEYESEKARA,
The Hon. GEO. B. LEECHMAN
} Unofficial Members.

SUPPLEMENTARY SUPPLY BILL, 1878.

REPORT.

THE Sub-Committee appointed to report on the Supplementary Supply Bill for 1878, have the honor to submit as follows:—

The total of this Bill is 1,809,625 rupees and 39 cents, and the principal features in it are the following:

1. The increase of salaries granted to officers in the first three classes of the Civil Service, amounting to twenty per cent. on the pay hitherto granted to the following officers:—

The Colonial Secretary and his Assistants.
The Treasurer.
The Auditor-General.
The Principal Collector of Customs, his Deputy and the Landing Surveyor, Colombo, and the Collector of Customs, Galle.
The Postmaster-General.
The Registrar-General.
The Government Agent, Western Province, and his Assistants at Ratnapura, Kegalla, Kalutara and Negombo.
Do. North-Western Province, and his Assistant at Puttalam.
Do. Southern Province, and his Assistants at Hambantota and Matara.
Do. Eastern Province, and his Assistant at Trincomalee.
Do. Northern Province, and his Assistants at Mannar, Mullaittivu and Vavuniya-Vilankulam.
Do. Central Province, and his Assistants at Badulla, Matale and and Nuwara Eliya.
Do. North-Central Province.
The District Judges, Badulla, Batticaloa, Chilaw, Galle, Jaffna, Kalutara, Kegalla, Kurunegala, Matara, Negombo, Ratnapura, Tangalla, and Itinerating.
The Commissioners of Requests and Police Magistrates, Colombo, Kandy and Galle.
The Fiscals, Western and Central Provinces.

It is proposed to grant a similar increase to the following officers not in the Civil Service, viz.:—

The Queen's Advocate
The Surveyor-General.
The District Judges, Colombo and Kandy.

and to raise the salary of the Governor to 80,000 rupees a year.

The total amount of these increases is 108,200 rupees.

2. The expenditure on Hospitals, which has been necessitated by the unhealthiness of past years and by the immigration to this country of weak and sickly persons from the famine districts in India, as well as the prevalence of cholera and small-pox during the early part of the year—186,965 rupees—has been provided in the Bill under this head, and, with the additional items which have become necessary since its introduction, the total provision for hospitals will not be far short of 200,000 rupees.

3. Stores, for which a vote of 267,905 rupees and 75 cents is asked. This expenditure will be repaid when the stores for which it is asked are absorbed by the various Departments which use them, and in future Bills no similar provision will be necessary, as a change has been introduced through which such charges are met by temporary advances repayable on delivery of the stores to the Departments.

4. Loss on exchange, which it has been thought advisable this year to place under a separate head of service. The great and increasing depreciation of silver, and the large purchases in England consequent upon the liberal expenditure on public works during the past year have necessitated unusually large provision for this purpose. The large sum provided—370,000 rupees—may be reduced by 100,000 rupees before this Bill becomes law.

No. 1.—ESTABLISHMENTS.

AUDIT OFFICE.

Jarquing Branch.—The expenditure under this head has been incurred by the transfer of this business from the Customs to the Audit Office. It has been represented to the

SUPPLEMENTARY SUPPLY BILL, 1878.

REPORT.

Sub-Committee that these votes will result in a better supervision of the accounts, and that it is not improbable they will be recouped by surcharges.

CENTRAL PROVINCE.

Salaries.—These sums, necessary to raise the pay of the prison guards to 180 rupees a year, are asked for the purpose of insuring better efficiency among the class of men appointed as peons in the prison.

CUSTOMS DEPARTMENT.

NORTHERN PROVINCE.

Salaries.—500 rupees. This sum is required to make up the salary of the officer who was acting as Assistant Collector and Landing Surveyor, Jaffna, to 3000 rupees per annum.

POST OFFICE.

Contingencies.

The Sub-Committee are of opinion that an additional vote is required, owing chiefly to the establishment of new Post Offices. They would, however, call attention to the fact that the supplementary vote under this head has been required for several years past, and they would suggest that, in future, ample provision be made in the Budget, on the understanding that all supplementary expenditure will be disallowed.

THE DIRECTOR, COLOMBO MUSEUM.

Salaries.—This vote is required for paying the salary of Dr. E. Müller, successor to Dr. Goldschmidt.

JUDICIAL.—FISCALS IN THE PROVINCES.

SOUTHERN PROVINCE.

Contingencies.—For "Messengers" read "Jail Guards" 1,000 rupees. A letter from the Fiscal of the Southern Province, explaining the necessity for this item of expenditure, having been read, the Sub-Committee are of opinion that the charge should be passed.

MEDICAL.

Salaries.

The Sub-Committee note that the expenditure under this head has increased very largely. A very interesting statistical return submitted by the Principal Civil Medical Officer and Inspector-General of Hospitals fully explains that the increased expenditure is mainly attributable to the larger number of persons admitted into the Public Hospitals, and the greater number of patients treated as "out-door patients" in the different Dispensaries which have been opened during the last year, as compared with former years. The number treated last year, according to the return, was 22,356, as against 17,005 in 1876 and 10,145 in 1869. It is satisfactory to observe that the cost per head has not been increased.

RAILWAY.

FINANCE AND TRAFFIC MANAGER.

Cables, &c., 2,000 rupees.—This expenditure was incurred owing to the opening of the wharf station early in the year.

Contingencies, 2,500 rupees.—This vote is necessary to meet the purchase of new Telegraph instruments.

2,500 rupees.—This amount was required to provide for the cost of oil, &c., in consequence of the opening of the station at the wharf and of two stations of observation on the incline.

SERVICES, EXCLUSIVE OF ESTABLISHMENTS

No. 3.—REVENUE SERVICES.

Grain.

Western Province, 3,835 rupees and 48 cents. It is explained to the Sub-Committee that this item is the amount paid in pursuance of a judicial decree given against the Crown.

Timber.

Western Province, 15,000 rupees.—The vote asked for under this head is reduced to 5,000 rupees.

North-Central Province, 40,000 rupees.—This sum was paid to a contractor upon an agreement to fell timber, and represents the half proceeds of sale of timber so felled on Crown land. The amount realized by the sale was 80,000 rupees.

No. 7.—EDUCATION.

Pali Vidyódaya College, 600 rupees.—The Sub-Committee are much gratified to learn that the progress made by this college justifies this grant.

No. 8.—HOSPITALS.

Agent, Northern Province, 35,000.—A large number of small-pox and cholera patients, treated in the Northern Province, accounts for this expenditure.

No. 9.—POLICE AND JAILS.

Fiscal, Western Province, 9,500 rupees.—The larger portion of this expenditure is required to meet the increased cost of procuring provisions for the prisoners.

Fiscal, Central Province, 20,000 rupees.—The transfer to Kandy of a large number of prisoners from Mannar and other districts to be employed in the construction of the Kandy Jail, has thrown upon the Kandy Fiscal the cost of their maintainance, and the vote is required for this purpose.

No. 10.—RENT.

POSTMASTER-GENERAL.

Rent, 1,180 rupees.—Since the introduction of the Money Order business at out-stations, it has been found necessary to incur additional expenditure in the rental of a better and more suitable class of buildings for up-country Post Offices.

INSPECTOR-GENERAL OF POLICE.

2,000 rupees.—The expenditure under this head having been under-estimated in the Supply vote, this additional expenditure is unavoidable.

No. 11.—TRANSPORT.

Agent, Central Province, 3,000 rupees.—The larger portion of this item is for allowances to Medical Officers travelling on vaccine and other duties. The remainder of the vote, it has been explained to the Sub-Committee, was required owing to a fresh commutation of the paddy tythe.

Director of Public Works, 8,000 rupees.—The Director of Public Works has submitted a letter, shewing that this sum, added to the amount provided in the Supply Bill, will not be in excess of his expenditure during the previous year under this head.

No. 13.—WORKS AND BUILDINGS.

Alterations and Additions to Buildings.

Western Province, 2,856 rupees and 50 cents.—This sum was required to repair and complete the new iron shed at the Customs.

5,000 rupees.—The alterations to the Colonial Store were made in accordance with the suggestions contained in the report of the Colonial Store Commission.

No. 14.—ROADS, STREETS, BRIDGES AND CANALS.

Central Province, 41,181 rupees and 50 cents.—The principal portion of this expenditure was incurred in repairing the damage done to many public roads by floods.

No. 17.—COLONIAL STORE.

267,905 rupees and 75 cents.—This expenditure is simply a matter of account, and is recoverable by the sale of stores.

No. 22.—IMMIGRATION.

Agent, Central Province, 3,600 *rupees*.—This vote is intended to meet the expenditure incurred in carrying out the arrangement between the Government and the Friend-in-Need Society, for the proper treatment of sick and destitute coolies in the neighbourhood of Kandy. The other items of expenditure under this head are required to provide food and lodging for sick coolies generally.

No. 23.—RAILWAY SERVICES.

Resident Engineer.

Repairs and Renewals, 73,000 rupees.—The principal reason for this charge is that sufficient provision was not made for the cost of repairs and renewals in the Budget.

Additional Rolling Stock, 63,618 rupees and 25 cents.—This expenditure was incurred on the recommendation of the Railway Board, who decided that additional wagons were required to meet the increased traffic on the line.

Telegraph.

Treasurer, 36,970 rupees and 35 cents.—In settling with the Indian Government, this item was overlooked. Now, however, that the claim has been made, this vote is necessary to meet it.

Loss on Exchange.

Treasurer, 370,000 rupees.—This item should be reduced to 270,000 rupees, which the Sub-Committee are of opinion will be sufficient to meet the loss on exchange.

Legislative Council Chamber,
Colombo, 11th December, 1878.

J. DOUGLAS,
W. H. RAVENSCROFT,
W. D. WRIGHT,
J. VANLANGENBERG,
J. P. OBEYESEKARA,
H. CROSS-BUCHANAN.

SUPPLEMENTARY SUPPLY BILL, 1878.

Appendix.

APPENDIX.

SCHEDULE.

ADDITIONAL ITEMS to be inserted, increased, reduced, or omitted from the Supplementary Supply Bill, 1878.

	To be inserted.		To be increased.		To be reduced.		To be omitted.
	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.	Rs.
I.—CIVIL.							
HIS EXCELLENCY THE GOVERNOR.							
Salaries.							
Increase to the salary of His Excellency the Governor from 1st January to 31st December, 1878	10,000	0					
SECRETARIAT.							
Contingencies							
To meet further expenditure up to end of the year (to be inserted)	1,500	0					
TREASURER.							
Contingencies.							
To meet further expenditure up to the end of the year (to be inserted) .	230	0					
AGENT, CENTRAL PROVINCE.							
Allowances.							
To Kachcheri Muhandiram for aiding Medical Assessment collection from 20th September, 1878	140	6					
DIRECTOR OF PUBLIC WORKS.							
Contingencies.							
To meet demands till the end of the current year :—							
Pioneer Clothing ... 700 0							
Conveyance of stationery, forms, medicines, &c ... 50 0							
Oil, wicks, and petty expenses... 200 0							
Charges connected with the examination of officers .. 180 0							
	1,130	0					
SURVEY DEPARTMENT.							
Salaries.							
Increase of 20 per cent. to the salary of the Surveyor-General from 1st January to 31st December, 1878	2,400	0					
II.—JUDICIAL.							
REGISTRY OF THE SUPREME COURT.							
Contingencies							
Clerical assistance in preparing new Codes ..	133	85					
QUEEN'S ADVOCATE.							
Salaries.							
Increase of 20 per cent. to the salary of the Queen's Advocate from 1st January to 31st December, 1878	3,000	0					
Allowances							
Allowance to Mr. Drieberg, Acting Deputy to the Queen's Advocate, Batticcloa, from 1st December, 1877, to 21st January, 1878 .	205	65					
DISTRICT COURTS.							
Colombo.							
Salaries.							
Increase of 20 per cent. to the salary of the District Judge of Colombo, from 1st January to 31st December, 1878 ..	2,400	0					
Kandy.							
Salaries.							
Increase of 20 per cent. to the salary of the District Judge of Kandy, from 1st January to 31st December, 1878	2,400	0					

		To be inserted.	To be increased	To be reduced	To be omitted.
		Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
COMMISSIONER OF REQUESTS AND POLICE MAGISTRATE, AVISAWELLA.					
Provisional Salaries.					
Pasyala					
Salary of Clerk of Courts at Pasyala for December, 1874	40 0				
Salary of 2 Messengers for December, 1874 ...	20 0				
		60 0			
V.—MEDICAL.					
PRINCIPAL CIVIL MEDICAL OFFICER AND INSPECTOR-GENERAL OF HOSPITALS.					
Provisional.					
Half salary of the Superintendent of the Colombo Lunatic Asylum—for December, 1878.		250 0			
Half salary of Matron for Lying-in hospital—for December, 1878.		66 67			
Contingencies.					
Cost of training Matron for Lying-in hospital		371 88			
SERVICES, EXCLUSIVE OF ESTABLISHMENTS.					
No. 3.—REVENUE SERVICES.					
Agent, North-Western Province.					
Salt.					
Cost of manufacturing, collecting and storing salt (to be inserted)		1,000 0			
Agent, Western Province					
Timber.					
Vote of 5,000 rupees to be substituted for 45,000 rupees		—	—	40,000 0	
Cost of felling and removing Ebony in the Matale district—Vote of 5,000 rupees to be reduced to 2,000 rupees		—	—	*3,000 0	
Agent, North-Western Province.					
Civil and Revenue Law Expenses.					
Balance of costs due to Government Proctor, Kurunegala, on account of certain cases instituted at the instance of the Crown (to be inserted)		—	635 69		
No. 4.—ADMINISTRATION OF JUSTICE.					
Government Agent, Western Province.					
Refund of fines ...		—	450 0		
Agent, Central Province.					
Refund of fines (to be inserted)		200 0			
Police Magistrate, Colombo.					
Inquests (to be inserted)		—	200 0		
FISCAL, NORTH-WESTERN PROVINCE.					
The following to be inserted :—					
Witnesses' expenses ...	300 0				
Inquests ...	300 0				
Examination by Medical officers	100 0				
Whitewashing	15 0				
		715 0			
No 6.—CHARITABLE ALLOWANCES.					
Agent, Southern Province.					
Relief to the destitute in the Wellaboda Pattu		1,000 0			
Agent, Eastern Province.					
Rice to the distressed		150 0			
Agent, Central Province.					
Relief to the distressed in Bintenna ...		2,000 0			

SUPPLEMENTARY SUPPLY BILL. 1878

Appendix

	To be inserted.		To be increased.		To be reduced.		To be omitted.	
	Rs.	Cts.	Rs.	Cts	Rs.	Cts.	Rs.	Cts.
No. 7.—Education.								
Director of Public Instruction.								
Difference between the amount provided in the estimates and the amount authorized to be paid in connection with the revision of the Mahawansa	—		—		—		838	16
No 8.—Hospitals								
Agent, Western Province.								
Civil Hospital, Colombo								
For educating and training 6 nurses for four months ending December, 1878, 537 rupees and 52 cents to be reduced to 287 rupees and 52 cents	—		—		—		250	0
Agent, Western Province.								
Civil Hospital.								
Clothing, bedding, hospital stores, &c., 3500 rupees to be increased to 5000 rupees ...	—		1,500	0				
Civil Hospital, Negombo, &c.								
Equipment	1,000	0						
Agent Western Province.								
Kalutara Hospital.								
For articles supplied, &c.	200	0						
Agent, North-Western Province.								
Hospitals at Kurunegala, Pattalam and Chilaw.								
Further sum required to meet expenditure till the end of the year (to be inserted) ...	1,600	0						
Agent, Southern Province.								
Funeral expenses—vote of 150 rupees to be increased to 300 rupees	—		150	0				
Agent, Eastern Province.								
Furniture—vote of 72 rupees to be increased to 280 rupees 25 cents	—		208	25				
Attendants	173	0						
Agent, Northern Province.								
To meet charges on account of small-pox,—vote of 35,000 rupees to be increased to 36,500	—		1,500	0				
Disinfectants—vote of 1,500 rupees to be increased to 4,500 rupees	—		3,000	0				
No. 9.—Police and Jails.								
Agent, North-Western Province.								
Burying deceased paupers, &c., vote of 150 rupees to be increased to 200 rupees .	—		50	0				
Agent, Eastern Province.								
Burying deceased paupers, vote of 45 rupees to be increased to 90 rupees ..	—		45	0				
Inspector-General of Police.								
Relieving sick and destitute persons, &c.—vote of 3,800 rupees to be increased to 4,900 rupees	—		1,100	0				
Provisions for prisoners, vote of 250 rupees to be increased to 600 rupees	—		350	0				
No. 10.—Rent.								
Postmaster-General.								
Vote of 1,180 rupees to be increased to 1,680 rupees	—		500	0				
No. 11.—Transport.								
Agent, Western Province.								
Travelling allowances to the Agent and Assistants	1000	0						
Agent, North-Western Province.								
Travelling expenses of the Agent and his Assistants	200	0						

	To be inserted	To be increased.	To be reduced.	To be omitted.
	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
Director of the Colombo Museum.				
Travelling allowance to the Archæological Commission—vote of 1,068 rupees and 12 cents to be increased to Rs 1,368·12 ..	--	300 0		
No. 13.—WORKS AND BUILDINGS.				
Alterations and Additions to Buildings.				
Central Province				
For a temporary Ward to the Civil Hospital Kandy	475 75			
No 14.—ROADS, STREETS, BRIDGES, AND CANALS				
New Roads				
Central Province				
For payment of assessors of damage done to private lands by opening of the Lemastota-Nahawila road	636 21			
Improvements to Roads.				
Western Province				
For improving roads in Customs premises ..	3,606 46			
General.				
Over-expenditure on hand-carts ..	194 27			
Miscellaneous.				
Western Province.				
For fittings for the Colombo Museum (to be omitted)	--	—	—	1,975 50
Agent, Central Province.				
For compensation due for houses for Prison officers, and improvement at old Malay lines, Kandy—vote 3,166 rupees to be increased to 3,957 rupees and 7 cents to meet cost of valuation	—	791 7		
No. 19.—GOVERNMENT VESSELS.				
Agent, Colonial Steamer Serendib				
For carriage, repairs stores, &c. 10,000 0				
For provisions for crews, &c. 2,500 0	12,500 0			
No. 20.—REFUND OF DUTIES, DRAWBACKS, &c.				
Treasurer.				
Refund to Local Boards, &c. ...	2,000 0			
Agent, North Western Province				
Amount to be credited in Testamentary Case No. 205 of the District Court of Kurunegala, which was drawn upon a forged order of Court in Case No. 2,242	455 54			
No. 21.—LAND TAKEN FOR GOVERNMENT PURPOSES.				
Land for Kalutara Hospital to be increased ...		0 16		
No. 22.—IMMIGRATION.				
Agent, Western Province				
Repairing Hunupitiya cooly sheds (to be omitted)	—	—	—	400 0
No. 26.—EXCHANGE.				
To meet loss on exchange (to be reduced to 270,000 rupees)	—	—	100,000 0	

XXXIII.

SUPPLY BILL. 1879.

REPORT of a SUB-COMMITTEE of the LEGISLATIVE COUNCIL appointed to report upon the Bill: "An Ordinance for making provision for the Contingent Services for the year 1879."

Ordered by the Legislative Council to be Printed.

COLOMBO.
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

EXTRACT from the Minutes of a meeting of the Legislative Council held at the Council Chamber on Wednesday, the 13th November, 1878.

Resolved.—That the following gentlemen be appointed a Sub-Committee to report upon the Bill :

"An Ordinance for making provision for the Contingent Charges for the year 1879."

The Hon. J. DOUGLAS, C.M.G., Colonial Secretary.

The Hon. W. H. RAVENSCROFT, Auditor-General.

The Hon. A. B. FYERS, Lieut.-Col. R.E., Surveyor-General.

The Hon. Sir M. COOMARA SWAMY, }
The Hon. G. A. TALBOT, } Unofficial Members.
The Hon. G. B. LEECHMAN, }

SUPPLY BILL, 1879.

REPORT.

THE Sub-Committee on the proposed "Ordinance for making provision for the Contingent Services for the year 1879" have to report as follows :—

In the present Supply Bill provision is made for the increase of 20 per cent. in the salaries of the Civil Servants of the 1st, 2nd, and 3rd classes, and of certain others of the principal servants of the Crown in this Island, as authorized by the Secretary of State. The following is a complete list of the officers whose salaries have received this augmentation; and the increase, which amounts in all to 98,200 rupees, is charged under the proper headings throughout the Estimates :—

Colonial Secretary and his Assistants.
Queen's Advocate.
Treasurer.
Auditor-General.
Surveyor-General.
Principal and Deputy Collectors of Customs, Colombo.
Landing Surveyor, Customs, Colombo.
Registrar-General.
Postmaster-General.
Government Agent, Western Province, and his Assistants at Ratnapura, Kegalla, Kalutara, and Negombo.
Do. North-Western Province, and his Assistant at Puttalam.
Do. Southern Province, and his Assistants at Hambantota and Matara.
Do. Eastern Province, and his Assistant at Trincomalee.
Do. Northern Province, and his Assistants at Mannar, Mullaittivu, and Vavuniya-Vilankulam.
Do. Central Province, and his Assistants at Badulla, Matale, and Nuwara Eliya.
Do. North-Central Province.
The District Judges, Colombo, Kalutara, Negombo, Ratnapura, Kegalla, Kurunegala, Chilaw, Galle, Matara, Tangalla, Batticaloa, Jaffna, Kandy, Badulla, and Itinerating.
The Commissioners of Requests and Magistrates at Colombo, Kandy, and Galle
The Fiscals of the Western and Central Provinces.
The Collector of Customs, Galle.

A communication from the Secretary of State, authorizing the increase to 80,000 rupees a year of the salary of the Governor of Ceylon, has been laid before the Sub-Committee, who have much satisfaction in recommending that this sum should be placed on the Estimates.

No. 1.—ESTABLISHMENTS.—CIVIL.

SECRETARIAT.

Salaries.

The number of Writers has been increased from 12 to 15 owing to the increased requirements of the Public Service, and this entails an increased charge of 9,000 rupees, which is entered as Provisional and Temporary.

Contingencies.

The allowance on account of the Government Oriental Library is this year reduced from 500 rupees to 250 rupees, while, on the other hand, 2,250 rupees is charged for pundit allowance to Writers, against 1,500 rupees last year, and an additional extra clerk is provided at a salary of 600 rupees per annum.

AUDIT OFFICE.

Jerquing Branch.

This is a new branch of this Department, taken over from the Customs Department, and it is intended to afford a better system of checking the Customs manifests and returns. The cost for 1879 is estimated at 4,150 rupees, but the Sub-Committee are informed that this amount will be recouped by the additional surcharges that will be made under the new system of audit.

SUPPLY BILL, 1879.

REPORT.

PROVINCIAL AGENCIES.

WESTERN PROVINCE.

Salaries.

On the motion of the late Mr. Alwis, it was determined to allow to the Mudaliyars of this province messengers, as has hitherto been the custom in the case of the Ratemahatmayas of the Central Province, and this is provided for in the present Budget at a cost of 1,920 rupees, being for 16 messengers at 120 rupees each.

Prison Branch.

This branch has been transferred to the Government Agent from the Fiscal's Department, in accordance with the provisions of the new "Prisons Ordinance, 1877," and the cost of the Establishment is accordingly also transferred to this Agency, the charges under the head of the Fiscal's Department being diminished to a corresponding extent.

Note. Similar transfers of prisons have been made in each province from the Fiscal's Department to the Government Agent, and the charges have also in each case been transferred likewise.

Kalutara.—The Sub-Committee recommend that the item of 520 rupees for the salary of the Jailer be struck out, as it is believed a Turnkey is all that is required under the present circumstances of this prison.

Contingencies.

Under the heading of "Weights and Measures" there is a saving as compared with 1878 of 2,000 rupees in consequence of the proposed introduction of the new Weights and Measures Ordinance.

CENTRAL PROVINCE.

Salaries.

On account of the increased amount of work thrown upon the Government Agent by the working of the Medical Aid Ordinance an additional clerk has been found necessary, and the Sub-Committee recommend that this be allowed. It is provided for in the Estimates at a cost of 1,000 rupees, which the Sub-Committee recommend should be raised to 1,200 rupees.

PUBLIC WORKS DEPARTMENT.

Salaries.

The irrigation works in each province are now placed under the superintendence of the Provincial Assistants, and one-half of the fixed salary of the Irrigation Assistant, viz., 4,000 rupees, is left undrawn. The officer who superintends the distribution of the water from the tanks in the Batticaloa District is now placed under the Provincial Assistant for the Eastern Province.

SURVEY DEPARTMENT.

Contingencies.

On the representation of the Surveyor-General, the Sub-Committee recommend that the sum of 14,500 rupees proposed to be allowed for purchase and repair of tools, &c., be increased to 15,500 rupees.

CUSTOMS DEPARTMENT.

Owing to the establishment of Assistant Agencies at Kalutara and Negombo, the Sub-Collectors, Shroffs, &c., at these stations have been discontinued, and their fixed salaries, amounting in all to 3,648 rupees, have been permanently omitted from the Estimates.

POST OFFICE.

WESTERN PROVINCE.

Salaries.

It is proposed to raise the salary of the present Assistant Postmaster-General and Inspector of Post Offices from 4,000 rupees to 4,500 rupees per annum, and this increase the Sub-Committee recommend in view of the six years' service of the present Assistant Postmaster-General, and of the increased duties which will devolve upon him under the new "Postal Ordinance, 1878": the maximum fixed salary of this office is 5,000 rupees. A correspondence clerk is applied for by the Postmaster-General, which the Sub-Committee recommend being allowed at the proposed cost of 800 rupees per annum.

Establishment.

Five new Post Offices are provided for in the Estimates for 1879, viz., at Haputale, Hanguranketa, Matara, Minuwangoda, and Bandaragama, all of which appear to the Sub-Committee to be very desirable.

The total cost of the Postal Department shews an increase in 1879 of 19,693 rupees, of which 9,155 is for Office Contingencies. The balance of the increase in 1879 is principally owing to the establishment of the additional Post Offices provided for and the expenses connected therewith. The Sub-Committee recommend that the large increase for contingencies be allowed, but on the understanding that it is to be made to suffice for the year, and that no vote will be given under this head in the Supplementary Estimates for 1879.

BOTANIC GARDEN.

Salaries.

The cost of coolies and planting, which in 1878 amounted to 8,295 rupees, is for 1879 transferred from this heading to Revenue Services, the expenditure being of a reproductive character.

COLOMBO MUSEUM.

Salaries.

Provision is made for the salary of Dr. Müller, who has succeeded the late Dr. Goldschmidt as Archæologist, and an addition is proposed of 500 rupees per annum to the salary of the Librarian.

Contingencies.

Towards the Library at the Museum some books have been obtained, and others are being ordered. A vote of 1,500 rupees is again taken in 1879 for this purpose.

II.—JUDICIAL.

SUPREME COURT.

Contingencies.

An extra clerk is allowed to the Chief Justice to assist him in the preparation of the three new Codes of Procedure on which he is now actively engaged.

QUEEN'S ADVOCATE.

Eastern Province.

The Deputy Queen's Advocate for this province, together with his clerk and messenger, are omitted from the Estimates for 1879, at a saving in expenditure of 3,608 rupees.

DISTRICT COURTS.

Itinerating District Judge.

This office is now vacant, no Civil Servant of suitable standing being at present available. The Sub-Committee are assured that the appointment has worked well and is a desirable one, and they recommend that provision be made for its continuance. This is done in the Supply Bill for 1879 at an estimated cost of 10,570 rupees.

COURTS OF REQUESTS AND POLICE COURTS.

Provision is made for the Additional Police Magistrate for the Mátara District and for the new Commissioner of the Court of Requests and Police Magistrate which it has been determined again to appoint for Panwila and Urugala.

REGISTRATION DEPARTMENT.

Under this head there is a decrease of expenditure in 1879 of 1,000 rupees.

FISCALS' DEPARTMENT.

Throughout this Department there is a nett decrease of expenditure in 1879 of 46,551 rupees, owing to the transfer of the prisons to the Agencies of the several provinces, as necessitated by the provisions of the new Prisons Ordinance, already mentioned in this report.

IV.—PUBLIC INSTRUCTION.

DIRECTOR OF PUBLIC INSTRUCTION.

Salaries.

The salaries of the two Sub-Inspectors are raised from 2,400 rupees to 2,600 rupees per annum. The salary of the Science and Art Master at the Normal Institution is increased from 2,500 rupees to 2,750 rupees, and that of the Science and Art Master at the Colombo Academy from 3,000 rupees to 3,250 rupees for the year 1879.

SOUTHERN PROVINCE.

Anglo-Vernacular Schools.

The school at Gintota has not been found to be successful, and will be discontinued, and the amount provided (630 rupees) may be struck out.

In the recapitulation, the total amount with this small reduction will stand at 232,388 rupees, of which by far the largest proportion appears to be spent in the Western Province, viz., 104,065 rupees.

SUPPLY BILL, 1879

REPORT

V.—MEDICAL.

Salaries.

A new specially qualified Surgeon for the Colombo Lunatic Asylum has been obtained, whose salary of 6,000 rupees is provided for, as well as the salaries of three new Sub-Assistant Colonial Surgeons, whose appointment has been necessitated by the increased and increasing demands upon the Medical Department. An extra clerk is allowed at 540 rupees per annum, and 1,000 rupees is allowed for the Colombo Port Surgeon. A Health Officer is allowed to Batticaloa, at a charge of 120 rupees per annum.

Lunatic Asylum, Colombo.

It is recommended to raise the salary of the Matron from 150 rupees to 240 rupees per annum, and three additional servants are provided for at a cost of 324 rupees for the year 1879.

Leper Hospital, Hendala, Colombo.

An additional male attendant is provided for at a cost of 120 rupees.

Government Civil Hospital, Colombo.

For this important institution the assistance has been obtained of a Head European Nurse and of an Assistant Nurse, expressly with the view of training nurses for service in the Island. Provision is made for the expenses of these appointments, and the Sub-Committee gladly recommend that the same be allowed.

Lying-in Hospital.

A matron for this new institution has been appointed, and she is now preparing specially in England with the view of taking up her duties here when the hospital is ready. Provision is also made for the expense of this new appointment.

Medical School.

With the view of further encouraging the study of medicine among the young men of the Island, it is proposed to establish a Government Scholarship of 500 rupees per annum, and provision is made for the same in the Estimates for 1879.

Contingencies.

The allowance to private medical practitioners, &c., is increased from 2,000 rupees to 4,000 rupees, and for the purchase of medicine and instruments from England from 20,000 rupees to 25,000 rupees.

The item of "Batta to Assistant Colonial Surgeons, &c., 1,500 rupees" is in 1879 transferred from this heading to "Transports," under which head it will be found.

The total Medical Establishment of the Island is estimated to cost in 1879, 275,955 rupees, against 255,766 rupees in 1878, shewing an increase in 1879 of 20,189 rupees.

VI.—POLICE.

Under this head there is an increase of expenditure in 1879 of 42,590 rupees, as against 1878, and which is caused almost entirely by the proposed increase of the Police Force, principally for Colombo, and the corresponding establishment. The Sub-Committee desire to express a hope that with this large increase of the police the force will be more satisfactory in the future.

VII.—PRISONS.

Inspector-General.

A Head Clerk is allowed for correspondence at a salary of 1,200 rupees per annum.

The expenditure of the Convict Establishment shews a decrease in 1879 of 9,239 rupees as compared with the Estimates for 1878.

VIII.—COLONIAL STORE.

An additional clerk is allowed in 1879 at a salary of 720 rupees per annum.

IX.—CEYLON GOVERNMENT RAILWAY.

RESIDENT ENGINEER.

Salaries.

The salaries of the Assistant Engineer in charge of Locomotive Workshops and of each of the three Locomotive Foremen are raised from 3,000 rupees to 4,000 rupees per annum.

In consequence of the opening of the Colombo Wharf branch and of the Kalutara line, five additional first class engine-drivers at 2,400 rupees per annum each, and two additional engine-drivers of the second class, are provided for in 1879.

Allowances.

A sum of 12,000 rupees is entered in the Estimates for good service premium, &c. The Sub-Committee recommend that this amount be reduced to 10,000 rupees.

FINANCE AND TRAFFIC MANAGER.

Salaries.

The salaries of the two chief clerks and of the senior chief goods clerk are each increased by 100 rupees per annum.

KALUTARA BRANCH.

Four new stations will be opened in 1879, and provision is made in the Estimates for four additional station-masters and for increased establishment, accordingly.

SERVICES, EXCLUSIVE OF ESTABLISHMENTS.

No. 2.—PENSIONS, RETIRED ALLOWANCES, AND GRATUITIES.

Pensions have ceased during this year amounting to 8,173 rupees and 91 cents, and pensions to pioneers shew a reduction of 1,000 rupees in 1879. Nevertheless, owing to the increased amount of new pensions, the total under this head is augmented by the sum of 12,173 rupees and 83 cents.

No. 3.—REVENUE SERVICES.

AGENT, WESTERN PROVINCE.

Cinnamon.

There is an increase under this head of 4,600 rupees, owing to the Government cinnamon being now cut and picked on Government account, instead of the gardens being rented as formerly.

Grain.

There is a decrease of 4,470 rupees in the total amount under this head, principally owing to the expenses in the Northern and Eastern Provinces in connexion with commutation being less than during the present year.

AGENT, NORTHERN PROVINCE.

Pearl Fishery.

An additional sum of 10,690 rupees is allowed to meet the expense of the Pearl Fishery expected to be had in 1879.

AGENT, WESTERN PROVINCE.

Timber.

The amount entered in the Estimates for felling and removing firewood for the Railway is 60,000 rupees, but as the whole vote for firewood for the railway is 65,000 rupees, the Sub-Committee are of opinion that 35,000 rupees should suffice for this purpose, and they recommend that this amount of 60,000 rupees be reduced to 35,000 rupees accordingly.

The following large sums are again voted in 1879 for the cost of felling and transporting timber on Government account, viz.:—

			Rs.
Agent,	Western Province	...	15,000
,,	North-Western Province	...	5,000
,,	Eastern Province	...	20,000
,,	Northern Province	...	10,000
,,	Central Province	...	2,000
,,	North-Central Province	...	50,000
		In all, Rs.	102,000

which expenditure the Sub-Committee are informed is expected to shew large profits when the accounts in connection therewith are closed. As these experiments have now been in operation for some years, the Sub-Committee think it is time that some profitable result should be obtained, and they are of opinion that a return should be laid before the Council next year, shewing the actual results so far.

DIRECTOR, BOTANIC GARDEN.

The amount under this head (11,690 rupees) is transferred from "Miscellaneous" and "Salaries," being reproductive expenditure.

SURVEYOR-GENERAL.

Land Sales.

The amount under this head (91,840 rupees) is also a transfer from "Miscellaneous," being expenditure of a reproductive character.

No. 6.—CHARITABLE ALLOWANCES.

AGENT, SOUTHERN PROVINCE.

The Government Agent of this province has represented that owing to the floods, &c., there is an unusual amount of destitution in the district, and he has intimated that an increased amount of charitable allowance will be necessary. In view of the actual circumstances, the Sub-Committee recommend that the allowance to paupers in the Southern Province be increased to 9,800 for 1879.

SUPPLY BILL, 1879.

REPORT.

AGENT, NORTH-CENTRAL PROVINCE.

The allowance to paupers of 60 rupees may be struck out.

No. 7.—EDUCATION.

Under this head there is a small decrease of expenditure in 1879 of 700 rupees, as compared with the present year.

No. 8.—HOSPITALS.

The expenses in connection with our hospitals (exclusive of Establishments) is estimated for 1879 to be 326,689 rupees and 17 cents, being an increase of 78,501 rupees as compared with the present year. The Sub-Committee have gone carefully through the several items, and they are of opinion that this largely increased expenditure is necessary, mainly owing to the sickness and sickly persons introduced into the Island in connexion with the great famine in India.

No. 9.—POLICE AND PRISONS.

Provincial Agencies.

Provision is made under this head for the cost of the prisons (exclusive of establishments), all of which except the Convict Establishment have been transferred to the Provincial Agencies from the Fiscals' Department.

Inspector-General of Police.

The cost of arms, ammunition, &c., uniform, oil and gas, hitherto charged under "Miscellaneous," amounting in all to 36,200 rupees, is in 1879 charged under this head.

No. 10.—RENT.

Under this head there is an increase of 2,289 rupees as compared with the Estimates for the present year.

No. 11.—TRANSPORT.

Director of Public Works.

The vote for travelling allowances in this Department is increased to 60,000 rupees, which it is hoped will suffice for the year without any supplementary vote being taken.

Medical.

Owing to the increase of sickness the allowance for batta is raised from 4,000 rupees to 5,000 rupees.

Horse Allowance

is raised in the case of the Medical and Police Departments from 30 rupees to 40 per mensem, and the Sub-Committee recommend that a similar increase of the rate of horse allowance be also allowed in the Survey Department, which will increase the vote under this head from 3,240 rupees to 4,320 rupees in the Supply Bill for 1879.

No. 12.—CONVEYANCE OF MAILS.

The two large items of sea conveyance of mails, 43,072 rupees, and contributed share of loss on sea conveyance of mails (Postal Union), 33,000 rupees, are this year transferred to this head from "Miscellaneous," which accounts for the largely increased vote on this behalf in the present Supply Bill.

No. 13.—WORKS AND BUILDINGS.

General.

The usual annual vote is taken of 20,000 rupees for new police stations, and 10,000 rupees for new permanent cooly lines and immigrant cooly sheds.

WESTERN PROVINCE.

The prison at Kalutara having been removed to make room for the railway, provision is made for building a new prison at a cost of 26,000 rupees, *plus* the amount of 19,000 rupees charged to the railway in respect of the value of the old prison and ground taken for railway purposes.

NORTH-WESTERN PROVINCE.

A new powder magazine is urgently required at Kurunégala, the present arrangements being both inadequate and dangerous, and provision is made for this want being supplied at a cost of 2,122 rupees.

Dutch Bay Immigration Scheme.

The item of 63,677 rupees (which includes the cost of two steam tugs at 10,000 rupees each) is "for putting up temporary buildings for immigrants between Dutch Bay and Polgahawela." The Sub-Committee are divided in opinion as to the advisability of this expenditure being undertaken, but they are unanimously of opinion that before considering this item the cost of carrying the coolies by steamer from India to Dutch Bay should be ascertained. They would suggest that this vote may be omitted in the present Supply Bill, and that the question may be brought forward again in the Supplementary Estimates for 1879, should the cost of carrying the coolies by steamer to Dutch Bay be by that time definitely ascertained.

EASTERN PROVINCE.

On the recommendation of the Principal Civil Medical Officer a *temporary* cholera ward will suffice, and the vote of 3,000 rupees may be reduced to 1,500.

NORTHERN PROVINCE.

The sum of 2,250 rupees towards a rest-house at Kankesanturai is a grant-in-aid promised by the Government, the remainder of the cost being provided by the inhabitants of the district.

CENTRAL PROVINCE.

Further votes on account are taken of 40,000 rupees towards the construction of a new prison at Kandy, and of 30,000 rupees towards the new Kandy Kachcheri.

Alterations and Additions to Buildings.

WESTERN PROVINCE.

It is represented to the Sub-Committee that a larger sum than 3,680 rupees would be required to thoroughly reconstruct the main building of the Negombo court-house, and to provide a permanent record room, which is much required, and they accordingly recommend that this amount be increased to 5,650 rupees.

The sum of 10,000 rupees for improvements to the Welikada prison includes the cost of a new workshop, &c.

NORTH-WESTERN PROVINCE.

The item of 6,256 rupees for improvements to the Kurunegala hospital includes the providing of a parangi ward, which is reported to be much needed.

The amount of 1,933 rupees is for repairs and improvements to the Provincial Assistant's house at Kurunegala.

SOUTHERN PROVINCE.

The 748 rupees for the Galle civil hospital is for improving the water supply at this institution.

No. 14.—Roads, Streets, Bridges, and Canals.

WESTERN PROVINCE.

The vote further on account of the Rakwana road extension is 30,000 rupees, and it provides for this road being completed as far as to Aigburth Estate.

CENTRAL PROVINCE.

The vote of 60,000 rupees on account of the road towards Kirklees is the Government contribution, and provides for the road being completed to six miles beyond the Kandapola Gap, up to which point the road from Nuwara Eliya is a Government public road.

A further contribution is made of 50,000 rupees towards the extension of the new Dolosbage road on the grant-in-aid principle.

The 10,620 rupees towards the road to the Nitre Cave district provides for certain extensions and improvements which the Government have promised to carry out solely at the Government expense having regard to the large amount already spent by the planters, in the construction of this new road.

NORTH-CENTRAL PROVINCE.

A vote of 20,000 rupees is taken for the Central road to Jaffna, which the Sub-Committee are informed will suffice for the completion of this great and important work.

The 900 rupees entered in the Estimates for widening, &c., a portion of this road may be struck out, as it appears this can be carried out under the abovementioned vote for 20,000 rupees.

For Ordinary and Necessary Repairs.

As the maintenance of the road from Haldummulla to Nahawilla is to be taken over solely on account of the Government from 1st January next, the amount under this head needs to be increased from 12,902 rupees to 25,804 rupees.

Votes are taken as usual for the maintenance of roads, for the maintenance and improvement of inland (canal) navigation, for irrigation works, and for roads to be declared during next year principal thoroughfares.

Slave Island Improvement.

An additional vote of 40,000 rupees is taken under this head, being the balance of the estimate for taking up land and making certain improvements contemplated in this overcrowded and insanitary part of the capital of the Island.

Flood Outlets.

A vote of 150,000 rupees is taken to provide for the immediate commencement of this most needful and most important enterprise, and the Sub-Committee learn with great satisfaction that the works at Talpitiya are already being actively proceeded with.

Water-Supply to Botanic Gardens.

The sum of 1,790 rupees provided in the Estimates, the Sub-Committee are informed, will complete the work, and be the final amount drawn under this head.

SUPPLY BILL, 1879.

REPORT.

No. 15.—MISCELLANEOUS SERVICES.

Treasurer.

The Sub-Committee consider that 1*s.* 8*d.* per rupee will be a safer exchange to reckon upon in 1879 than 1*s.* 10½*d.*, and they suggest that the sum of 40,000 rupees allowed in this estimate may be altered accordingly.

Of the loss on exchange (200,000 rupees), a proportion of 20,000 rupees has been charged to the railway direct, and this amount may be reduced to 180,000 rupees accordingly, which will be provided under a separate head of service.

The Claim of Mr. Arrowsmith's Executors.

The Sub-Committee have considered the correspondence received from the Secretary of State, and the whole of the circumstances of this long dormant claim, and they are satisfied that the amount claimed became due to the late Mr. Arrowsmith, and that it has not been paid by this Colony. They therefore recommend that the amount, 7,140 rupees and 54 cents be now paid as claimed. Provision is made in the Estimates accordingly.

No. 17.—COLONIAL STORE.

Under this head there is a very large reduction of 339,310 rupees, as compared with the present year. This is caused by the change of the system of keeping the Store accounts which has been adopted, and in accordance with which the expenditure appears only once in the accounts of the Colony instead of twice, as has been the case hitherto.

No. 20.—REFUND OF DUTIES, DRAWBACKS, &c.

Treasurer.

These refunds are now all to be made through the Treasurer only, instead of through the Government Agents also, as heretofore.

No. 22.—IMMIGRATION.

Agent, North-Central Province.

The charges for hospitals for sick immigrants is increased from 3,000 rupees to 5,000 rupees in consequence of the increased demands at present made on the hospitals in this Province.

Master Attendant, Colombo.

The allowance to Immigration Agents is increased to 3,800 rupees to include the salary of 3,000 rupees per annum now allowed to the newly-appointed Immigration Agents at Tuticorin of the Ceylon Government.

No. 23.—RAILWAY SERVICES.

RESIDENT ENGINEER.

Miscellaneous Services.

The item of "Coal, including freight, 135,000 rupees," may be altered to "Coal including freight and exchange, 120,000 rupees," and the item "Firewood" may be altered from 150,000 rupees to 65,000 rupees; these two items having been accidentally misprinted as above in the Estimates.

Legislative Council Chamber,
Colombo, 11th December, 1878.

J. DOUGLAS,
W. H. RAVENSCROFT,
A. B. FYERS,
M. COOMARA SWAMY,
G. A. TALBOT,
G. B. LEECHMAN.

APPENDIX.

ADDITIONAL Items to be inserted, increased, reduced, or omitted from the Supply Bill, 1879.

	To be inserted.		To be increased		To be reduced.		To be omitted.	
	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.
ESTABLISHMENT.								
I.—CIVIL.								
HIS EXCELLENCY THE GOVERNOR.								
Salaries.								
Increase to the salary of His Excellency the Governor from 1st January to 31st December, 1879	10,000	0						
AGENCIES.								
AGENT, WESTERN PROVINCE.								
Salary of Record-Keeper, vote of Rs. 360 to be substituted for Rs. 600	—		—		240	0		
PRISONS BRANCH.								
Hulfsdorp Prison.								
Jailer, Rs. 150 (Provisional) to be reduced to Rs. 90	—		—		60	0		
Pannadure Prison.								
Jailer (Fixed) Rs. 350 (Provisional) Rs 10 and 2 Prison Guards (Fixed) Rs. 120 (Provisional) Rs. 108 to be omitted	—		—		—		118	0
Kalutara Prison.								
Jailer, Rs. 520, to be omitted	—		—		—		520	0
AGENT, CENTRAL PROVINCE.								
Assistant Jailer, Kandy, Provisional salary Rs 850 to be increased to Rs. 900	—		50	0				
Medical Aid Clerk to be increased to Rs. 200	—		200	0				
PUBLIC WORKS DEPARTMENT.								
Pioneer Establishment.								
1 Officer Commanding Division of Pioneers ...	3,000	0						
1 Do. do. ...	—		—		—		2,360	0
SURVEYOR GENERAL.								
Contingencies.								
Expenses attending the purchase and repair of tools, &c.,—vote of Rs. 14,500 to be increased to Rs. 15,500	—		1,000	0				
POST OFFICE.								
Foreign Correspondece Clerk	1,000	0						
II.—JUDICIAL.								
LOAN BOARD.								
Vote of Rs. 360, under Provisional Salaries, to be omitted	—		—		—		360	0
Allowance to Clerks for performing extra duties beyond the regulated hours of business, for January, 1878, Rs. 30 to be inserted ..	30	0						
III.—ECCLESIASTICAL.								
Allowances.								
Allowance to Acting Colonial Chaplain, Jaffna, to make up his income to Rs. 3,000 a year ...	1,500	0						
IV.-PUBLIC INSTRUCTION.								
SOUTHERN PROVINCE.								
Anglo-Vernacular Schools.								
Gintota.								
Master, Rs. 600 Provisional ... .. } Sweeper, Rs. 30 do. ... ... }	—		—		—		630	0
CENTRAL PROVINCE.								
English School, Kandy.								
Master	—		—		—		2,400	0
V.—MEDICAL.								
Salaries.								
Surgeon for Lunatic Asylum, Rs. 6,000 to be inserted	6,000	0						
MERCHANT SEAMEN'S HOSPITAL.								
Nurse, Rs. 360 to be omitted	—		—		—		360	0

SUPPLY BILL, 1879.

Appendix.

	To be inserted.	To be increased	To be reduced.	To be omitted.
	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
V.—Medical.				
Salaries.				
Lunatic Asylum, Welikada.				
Appointment of Head Overseer at Rs. 360 per annum to be inserted instead of two Overseers at Rs 300 each to be omitted	360 0	—	—	600 0
Matron, salary to be increased from Rs. 150 to Rs. 240	—	90 0		
IX.—Railway.				
Resident Engineer.				
Allowances.				
Good service premium to Foremen, Engine Drivers, &c.,—vote of Rs. 12,000 to be reduced to Rs. 10,000	—	—	2,000 0	
Storekeeper's Office.				
1st clerk, Rs. 1,300 to be substituted for Rs. 1,320	—	—	20 0	
SERVICES, EXCLUSIVE OF ESTABLISHMENTS.				
No. 3.—Revenue Services.				
Agent, Western Province.				
Timber.				
For felling and removing firewood for Railway—vote of Rs. 60,000 to be reduced to Rs. 35,000	—	—	25,000 0	
No. 6.—Charitable Allowances.				
Agent, Southern Province.				
Allowance to paupers—vote of Rs. 8,700 to be increased to Rs. 9,800	—	1,100 0		
Agent, North-Central Province				
Allowance to paupers, Rs. 60 to be omitted ..	—	—	—	60 0
No. 8.—Hospitals.				
Agent, Central Province.				
Civil Hospital, Kandy.				
Wages of the assistant servants and attendants, vote of Rs. 5,782 to be increased to Rs. 5,962	—	180 0		
No. 9.—Police and Prisons.				
Fiscal, North-Western Province.				
Provisions for prisoners arrested on warrants, Rs. 300 to be inserted	300 0			
Agent, Western Province.				
Reward for capturing escaped and other criminals, to be omitted ...	—	—	—	300 0
Agent, North-Western Province.				
Reward for capturing escaped and other criminals to be omitted	—	—	—	50 0
Agent, Southern Province.				
Reward for capturing escaped and other criminals to be omitted	—	—	—	300 0
Agent, Eastern Province				
Reward for capturing escaped and other criminals to be omitted	—	—	—	50 0
Agent, Northern Province				
Reward for capturing escaped and other criminals to be omitted	—	—	—	180 0
Agent, Central Province				
Reward for capturing escaped and other criminals to be omitted	—	—	—	200 0
Agent, North-Central Province.				
Reward for capturing escaped and other criminals to be omitted ...	—	—	—	100 0
Inspector-General of Prisons.				
Reward for capturing escaped and other criminals to be inserted	1,000 0			
No. 10.—Rent.				
Agent, Northern Province				
Rent of store at Jaffna, Rs. 180 to be omitted ..	—	—	—	180 0
No. 11.—Transport.				
Agent, North-Western Province.				
Prisons Branch.				
Railway fare, &c., for prisoners, Rs. 400 to be inserted	400 0			

	To be inserted.		To be increased.		To be reduced.		To be omitted.	
	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.
Survey Department.								
Horse allowance to the Surveyor-General and 8 Assistants, at Rs 40 each per month vote of Rs. 3,420 to be increased to Rs 4,320 ...	—		1,080	0				
No. 12.—Conveyance of Mails								
For conveyance of Mails between Colombo and Negombo by steam boat from January to April, 1879, to be inserted	200	0						
For conveyance of Mails between Polgahawela, Kegalla and Aranayaka,—vote of Rs. 1,000 to be increased to Rs 2,000 ...	—		1,000	0				
For conveyance of Mails between Galle and Matara,—vote of Rs 3,500 to be increased to Rs. 3 600 ...	—		100	0				
For conveyance of Mails between Kandy and Matale, Rs. 900 to be increased to Rs. 1,000. .	—		100	0				
No. 13.—Works and Buildings.								
Alterations and Additions to Buildings.								
For reconstructing the main building, Court-house, Negombo—vote of Rs 3,680 to be increased to Rs. 5,650 ...	—		1,970	0				
New Works and Buildings.								
For putting up temporary buildings between Dutch Bay and Polgahawela, to be omitted ...	—		—		—		63,677	0
For cholera ward, Trincomalee—vote of Rs. 3000 to be reduced	—		-		1,500	0		
No. 14.—Roads, Streets, Bridges and Canals.								
North-Central Province.								
For widening and gravelling a portion of the Central Road passing through the Bazaar at Maradankadawela, days' labour 3600, Rs. 900 to be omitted ...	—		—		—		900	0
For improvement of roads, days' labour 8000, to be inserted	-				-		-	
Roads.								
For ordinary and necessary repairs.								
North-Western Province.								
Naranmulla to Madampe road, days' labour 9,036 to be inserted	—		—		—		—	
Southern Province.								
Kemagoda to Hambantota, days' labour 16000 to be substituted for 20,000 ..			—		—		—	
Kananke to Weharahena, days' labour 12,000 to be substituted for 16,000 ...	—		—		—		—	
Northern Province.								
Kankarayan to Galkandamada, days' labour 2,500 to be substituted for 2,270 ..	—		—		—		—	
Coast road to Colombo, days' labour 5,803 to be substituted for 6 803 ..			—		—		—	
Central Province.								
Haldummulla to Nahawela—vote of Rs. 12,902 to be increased to 25,804	—		12,902	0				
Rest-houses.								
Southern Province.								
Days' labour 18,000 to be substituted for 22,000	—		—		—			
No. 15.—Miscellaneous Services.								
Treasurer.								
Loss on Exchange—vote of Rs 200,000 to be reduced to Rs. 180,000 and provided under No. 26	—		—		200,000	0		
Agent, North-Western Province.								
For clearing ruins of historical interest, to be inserted	400	0						
Agent, Central Province.								
Compensation to appraisers—vote of Rs. 150 to be omitted	—		—		—		150	0
No. 22.—Immigration.								
Agent, North-Central Province.								
Charges for ordinary watchers and attendants—vote of Rs. 2,930 to be increased to Rs. 4,350	—		1,420	0				
No 23.—Railway Services.								
Coal including freight, to be increased from Rs. 100,000 to 120,000	—		20,000	0				
No. 26.—Exchange.								
Treasurer.								
To meet the loss on exchange	180,000	0						

SUPPLY BILL.

1879

Appendix.

LIST OF UNEXPENDED BALANCES to be brought forward for expenditure in 1879.

				Rs.	Cts.	Rs.	Cts.
			SUPPLEMENTARY SUPPLY BILL, 1875.				
			Central Province.				
780	...	Oct. 25 ...	For opening Tavalam road from Cabragalla-gap through Lagalla to Nitre Cave	3,854	0		
						3,854	0
			SUPPLY BILL, 1876.				
			Western Province.				
			For building a Lunatic Asylum, Colombo	40,000	0		
						40,000	0
			SUPPLEMENTARY SUPPLY, BILL, 1876.				
			Central Province.				
832	...	Oct. 18 ...	For building a Police-station at Maskeliya	1,500	0		
833	...	Oct. 18 .	Do. do. Belgravia	1,000	0		
596	...	April 6 ..	For the erection of a Post Office at Dikoya	900	0		
						3,400	0
			SUPPLY BILL, 1877.				
			Western Province.				
			For building a Lunatic Asylum, Colombo	80,000	0		
			North-Western Province.				
			For extending telegraph line from Polgahawela to Kurunegala	11,745	0		
			Southern Province.				
302	..	April 11 ..	For iron bridge, 120 feet span, over the Nilwalaganga at Akuressa	5,000	0		
			Eastern Province.				
2	...	Jan 11 ..	For sinking wells on the Badulla-Batticaloa road ...	2,500	0		
304	.	Jan. 25 ...	For bridge over the Pankulam-ar on the road Trincomalee to Anuradhapura	6,500	0		
			Central Province.				
6	...	Jan. 25	For Boys' Industrial School, Kandy	5,270	0		
659	..	April 28					
49	...	Mar. 16 ...	For additions to Military buildings, Nuwara Eliya ...	1,830	0		
						119,473	0
			SUPPLY BILL, 1878.				
			Western Province.				
			For markets at Kalutara	10,000	0		
311	...	Jan. 25 ..	For erecting an iron bridge at Mabola, 7th mile, Negombo road	7,000	0		
			North-Western Province.				
			For an upstair house for the Government Agent, Kurunegala	23,000	0		
			Southern Province.				
10	...	Oct. 7 ...	For a Light-house at Unawatuna, Point-de-Galle harbour ...	78,000	0		
			Eastern Province.				
28	...	Oct 10 ...	For improvements to Batticaloa Jail	4,000	0		
			Northern Province.				
24	...	Mar 22 ...	For a Hospital at Point Pedro	2,000	0		
51	..	June 7 ...	For increased cellular accommodation, Jaffna jail	7,000	0		
			Central Province.				
			For new jail, Kandy	30,000	0		
30	...	Feb. 4 ...	For a cemetery at Matale	13,000	0		
			For re-building Kandy Kachcheri in part	15,000	0		
989	...	Dec. 13 ...	For constructing the 3rd section of Uda Pussellawa road	39,226	0		
940	..	Sep. 25 ...	For constructing four miles of road from Nawalapitiya towards Doloshage	20,000	0		
705	...	Mar. 26 ..	For forming six miles of metalled road to connect the districts of Dimbula and Dikoya	20,000	0		
			North-Central Province.				
32	...	Jan. 31 .	For building a house for the Jailer at Anuradhapura ...	4,000	0		
315	...	June 12 ...	For bridge over the Yan-oya on the Trincomalee-Anuradhapura road	25,000	0		
						297,226	0
						463,953	0

Summary.

	Rs
Supplementary Supply Bill, 1875	3,854
Supply Bill, 1876	40,000
Supplementary Supply Bill, 1876	3,400
Supply Bill, 1877	119,473
Supply Bill, 1878	297,226
Total, Rs.	463,953

For erecting an iron bridge at Minuwangoda, Rs. 3,800.

The Provincial Assistant reports that this work will be completed before the end of this month. This amount has therefore been omitted.

Public Works Department,
Colombo, 7th December, 1878.

A. MURRAY,
for Director of Public Works.

LIST of Estimates sanctioned against the Irrigation Vote 1878, Rs. 302,000.

No	Date of Sanction 1878.		Service	Amount		Total.	
			Western Province.				
351 ...	January	22 ...	For additions and repairs to the Uyanwattewewa Tank, Ravigam Korale	2035	0		
494 ...	February	8 ..	For additional works to the Medagamamuna ...	1430	0		
653 ..	April	8 ..	For certain additional works to the sluice and spill water, Remuna Tank	450	0		
						3915	0
			North-Western Province.				
1004 ..	January	11 ...	For constructing two Irrigation channels under the Magalawewe, Nikaweratiya .	7365	0		
361 ...	do.	22	For building an 8-feet culvert and sluice at Horakela .	1221	0		
362 ...	do.	23 ...	For puddling and repairing the Maha Uswewa Bund, Demala Dutpattu	9130	0		
567 ...	March	22 ...	For the construction of a sluice at Konkadawela village tank ..	1118	0		
673	May	7 ..	For erecting a bungalow at Galgamuwe for the Superintendent of village tanks .	550	0		
691	do.	9 ...	For improving the spill water of Magalawewa	858	0		
727	June	7 ..	For the construction of a sluice at Pambuwatawana .	1088	0		
728 .	do	7	For do do. at Mahagalkadawela ...	1088	0		
771 .	July	4 ...	For constructing a sluice and spill waters at Mediyawa (Estimate of Rs. 10,481) ...	4745	0		
779 ...	do	10 ...	For constructing a sluice at Palukadawala village tank	2238	0		
783 ...	do	6 ...	For construction of a sluice at Muttupettewe village tank	1318	0		
834 ...	August	9 ..	For do of a sluice at Olupeliyewa village tank	1088	0		
870 ...	September	6 ..	For do. of a sluice at Pahala Girdawe village tank	1088	0		
894 ...	October	3 ...	For do. of a sluice at Mino village tank	1088	0		
927 ..	do	29 .	For do of a sluice at Gahadiulwewe village tank	1088	0		
898 ...	do.	5 ...	For do of a sluice at Ambanpala village tank ...	1118	0		
935 ...	November	1 .	For do of a sluice at Medadumbe village tank ..	1118	0		
938 .	do.	2 ..	For do. of a sluice at Tattewe village tank	1088	0		
939 .	do.	2 .	For do of a sluice at Perumakotuwa village tank	1088	0		
940 .	do.	2 .	For do. of a sluice at Uppalawatta village tank .	1088	0		
			Balance still available for North-Western Province out of apportionment	1714	0		
						39985	0
			Southern Province				
975 ...	November	23 ..	For the construction of a new store tank and channel at Dandeniya	35279	0		
667 ..	April	15 ...	For repairing damages to the Tank at Ellagala and Tissamaharama	1284	0		
668 ...	do.	15 ..	For raising three wing walls and filling in earth at Udukiriwela anicut	1260	0		
864 ...	September	10 ...	For building a retaining wall for the channel of the Digoda tank	120	0		
						37943	0
			Eastern Province.				
562 ...	March	22 ...	For the repair of damage to the Kadeniamma tank ...	500	0		
695 ..	May	7 ...	For repairing damages to Ambara tank	500	0		
563 .	March	22 ...	For the repair of Rugam Bund	12777	0		
646 ...	April	8	For cutting a channel to irrigate paddy fields, Trincomalie District	12370	0		
696	May	7 ...	For repair of damage done to Devilana tank ...	30000	0		
697 ...	do.	7 ...	For repair of damage to Chadiantalawa tank ..	500	0		
698 ...	do.	7 ...	For repair of damage done to Puliganawai tank .	5000	0		
						61647	0
			Central Province				
542 ..	March	9	For improving the Alut Ela, Badulla	1280	0		
						1280	0
			North-Central Province.				
397 ...	July	28 ..	For the construction of a first class sluice at Halatalawe village tank	2224	0		
433 ...	February	1 . .	For the construction of a sluice to the village tank of Jamuvahamillewewewe ...	1195	0		
434 ..	do	1 . .	For building a permanent kalingulah at Terapankadawele village tank	880	0		
435 ...	do..	1 ...	For building a permanent kalingulah at Urapanuwewe village tank	880	0		
436 .	do.	1 ..	For the construction of a sluice to the village tank of Galwirigallewewewe	1195	0		
437 ...	do.	1 ...	For the construction of a sluice to the village tank of Urepenewewe	1195	0		
438 ...	do.	1 ...	For the construction of a sluice at Ambegahawewe village Tank	1148	0		
439 ...	do.	1 ...	For the construction of a sluice at Pudukulamawe village tank	1148	0		
441 ...	do.	1 ...	For the construction of a sluice at Olugaskadawewe	1148	0		
467 ...	January	31 ...	For the construction of an apron to the back of the sluice wall at Horawapatana	50	0		
470 ...	February	6 ...	For the construction of a sluice at Paluigeswewe village tank	1148	0		
477 ...	July	10 ...	For the restoration of 13½ miles of the Yoda Ella from Anuradhapura to Tirupankadawelle .	89474	0		
516 .	February	20 ...	For erecting a bungalow for Mr. Robinson Superintendent of village tanks	500	0		

SUPPLY BILL, 1879.

Appendix.

No.	Date of Sanction.		Service	Amount.		Total.	
663 ...	April	15 ...	For the construction of a sluice at the village tank of Kapurigamawewe	1196	0		
664 ...	May	7 ...	For the construction of a sluice at the village tank of Kirriwadunnewewe	1196	0		
723 ...	June	3 ...	For the construction of a permanent spill of Kirriwadunnewewe village tank	180	0		
724 ..	do	3 ...	For the construction of a sluice at the village tank of Waunnemadawewewe ..	1191	0		
736 ..	do	12 ...	For erecting a bungalow for the Superintendent of village tanks at Kekerawe	350	0		
748 ..	July	8 .	For the construction of a sluice at Mahakapugollawewe tank	2228	0		
749 ...	do	8 ...	For the construction of a sluice at the village tank of Ratmalewewe in Mahapotana Korale ...	1195	0		
750 ...	do.	8 ..	For the construction of a sluice at Ambagaswewe village tank	1195	0		
751 ...	do	8 .	For the construction of a sluice at Unegasewewe village tank	1151	0		
753 ...	do	8 ...	For the construction of a sluice No. 2 at Dutuwewe village tank	1151	0		
752 ..	do	8 ..	For the construction of a sluice No. 1 at Dutuwewe village tank	1151	0		
754 ..	do	8 ...	For the construction of a permanent kalingulah at Mahakapugollawewewe village tank .	880	0		
755	do.	8 ...	For the construction of a permanent kalingulah at Ambagaswewe village tank ...	880	0		
756 ..	do	8 ...	For the construction of a permanent spill at Dutuwewewe village tank	880	0		
770 ..	do.	4 ..	For the construction of a sluice at the village tank of Nambadawewe	1195	0		
772 ...	do.	4 ...	For the construction of a sluice at Relapanawewe village tank	1195	0		
773 .	do.	4 ..	For the construction of a sluice at Karambankulamewewe	1151	0		
775 ..	do.	4	For the construction of a sluice at Rotewewe village tank	1195	0		
780 .	do	10 .	For the construction of a sluice at Nekatunewewe village tank	1151	0		
781 ..	do.	10 .	For the construction of a sluice at Terangollewa village tank	1151	0		
782 .	do	10 ..	For the construction of a sluice at Galahadawa village tank	1195	0		
787 .	do.	10 ...	For erecting a bungalow for the Superintendent of village tanks stationed at Talawa	350	0		
821 ...	August	3 ...	For the construction of a 1st class sluice and 3rd class sluice at Kalanchiya village tank . ..	3376	0		
822 ...	do.	3 .	For the construction of a sluice at Keralagama village tank	1151	0		
823 .	do.	3 .	For the construction of a sluice at Mighasagama village tank . ..	1151	0		
824 ...	do.	6 ...	For erecting a bungalow for the officer in charge of irrigation works at Pihimbiyagollewe	350	0		
832 ...	do	5 ..	For the construction of a sluice at the village tank of Kandawewewe	1191	0		
836	do.	9	For the construction of a 1st class sluice at Galapitagalewewe village tank	2228	0		
837 ..	do.	9 ..	For the construction of a sluice at the village tank of Kalu Ella ..	1195	0		
838 ...	do.	9 ...	For the construction of a sluice at the village tank of Ganawalpolawewe...	1195	0		
839 ...	do	9 ...	For the construction of a sluice at the village tank of Kambulgassewewewe ...	1195	0		
860 ...	September	6 ..	For the construction of a 3rd class sluice at the Wagallakadawewe village tank and a permanent kalingulah	2028	0		
861 ...	do.	6 .	For construction of a sluice at Palaladiulwewe village tank	1196	0		
862 ..	do	6 ...	For the construction of a sluice at Ihala Diulwewe village tank	1148	0		
863 ...	do.	6 ...	For the construction of a sluice at Dunwattegamg village tank	1148	0		
881 ...	do.	19 ...	For removing sluice at Mahadiulwewe village tank ...	150	0		
917 ..	October	24 ...	For the construction of a sluice at Paluketunewewewe village tank	1118	0		
918 ..	do.	24 ..	For the construction of a sluice at Rasnekewewewe village tank	1118	0		
919 ...	do.	24 ...	For the construction of a sluice at Kakulbendidigeleyewewe tank	1118	0		
920 ...	do.	24 ...	For the construction of a sluice at Pahala-Kudapityewewe village tank	1191	0		
921 ...	do.	24 ...	For the construction of a sluice at Diulwewe village tank	1191	0		
						150730	0
			General.				
965 ...	October	7 ...	For the payment of salaries to officers employed on Irrigation Surveys	3000	0		
			For cost of sluices ordered from England ...	3500	0		
						6500	0
					Total Rs...	302000	0

Public Works Department,
Colombo, 26th November, 1878.

A. MURRAY,
for Director of Public Works.

IRRIGATION VOTE FOR 1879.

PROPOSED APPROPRIATION.

			Rs.
Works	...	...	300,000
Surveys, Public Works Department	...	...	10,000
Salaries do. do.	.	...	25,000
Travelling allowance ..	...	..	15,000
Surveys, Surveyor-General	..	...	15,000
		Total ... Rs.	365,000

PROPOSED DISTRIBUTION of Vote for works.

			Rs.	Rs.
For repair of Village tanks				
North-Central Province	...	...	80,000	
North-Western Province	...	...	25,000	
Northern Province	...	...	20,000	
				125,000
Central Province works.				
Gal-oya anicut ..	..	...	12,888	
Kandella channel, Badulla	...	..	3,400	
				16,288
North-Central Province.				
Bassawakkulam tank, strengthening bund		...	17,600	
Balance on Yodí-ela	...	...	56,658	
				74,258
Southern Province.				
Regulating gate, Batuwita channels		..	870	
Retaining walls, Denegama tank ...		...	3,000	
Tissamaharama channels, sluice .		...	3,325	
				7,195
Eastern Province				
Mahaoya tank, Batticaloa road ..		.	8,330	
Andankulam, Trincomalee	.	...	23,000	
Suriaddy anicut .	...	...	5,020	
Irakkamam tank, raising bund	.	...	3,960	
				40,310
North-Western Province.				
Wenoruwewa channels	...	...	—	7,728
		Total ... Rs.		270,779

A. MURRAY,
for Director of Public Works.

Colombo, 26th November, 1878.

XXXIV.

GRAIN TAX BILL.

REPORT of a SUB-COMMITTEE of the LEGISLATIVE COUNCIL appointed to report upon the Bill, "An Ordinance to make better provision for the due collection of the Tax, Duty or Share due to Government upon Grain grown in this Island.

Ordered by the Legislative Council to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER CEYLON.

1878.

EXTRACT from the MINUTES of a Meeting of the LEGISLATIVE COUNCIL held at the Council Chamber on Wednesday, the 6th November, 1878.

Resolved,—That the following gentlemen be appointed a Sub-Committee to report upon the Bill:

'An Ordinance to make better provision for the due collection of the Tax, Duty or Share due to Government upon Grain grown in this Island."

The Hon. J. DOUGLAS, C.M.G., Colonial Secretary.
The Hon. RICHARD CAYLEY, Queen's Advocate.
The Hon. F. R. SAUNDERS, Acting Government Agent, Western Province.
The Hon. W. D. WRIGHT, Principal Collector of Customs.
The Hon. Sir M. COOMARA SWAMY,
The Hon. J. VANLANGENBERG,
The Hon. J. P. OBEYESEKARA,
The Hon. G. B. LEECHMAN,
} Un-official Members.

GRAIN TAX BILL.

REPORT.

THE Sub-Committee have the honor to report as follows :—

1. They have examined orally several witnesses, both Native and European, and have received reports from all the Government Agents and from others on the subject of this Bill.

2. They are gratified in being able to report that in the opinion of the great majority of the persons, to whom the Bill has been referred, the main features of the measure—namely, the substitution of a money payment for a payment in kind of the grain-tax, and the consequent abolition of the renting system—will be found both practicable and, if the assessment is moderate, generally acceptable to the people. The Sub-Committee have accordingly framed their amendments with the view of making the assessment as moderate and easy for the cultivator as possible.

3. The Bill, in the form in which it has been referred to the Sub-Committee, provides for two kinds of commutation of the grain-tax. It must either assume the form of a fixed money payment to be made annually, whether the field, in respect of which it is due, yields a crop or not, or the form of an equally fixed (though larger) payment to be made in those years only in which the field produces a crop.

4. The question of giving to the cultivator in all cases the option of electing whether he will be assessed for this annual commutation or for a commutation payable in crop-producing years only has received the careful attention of the Sub-Committee, and they have obtained a considerable body of evidence bearing on the point. The views, which have been expressed on this question by many witnesses of experience and knowledge, have induced the Sub-Committee to recommend that this option should in all cases be conceded; for, though several members of the Sub-Committee are strongly of opinion that in the case of fertile fields—which produce (say) an average of ten crops in fourteen years—assessment by way of annual commutation is more advantageous both for the cultivator and the Government than the other method; yet their desire to make the Bill as acceptable as possible to the people induces them to defer their own opinion to what appears to be the general wish on the subject. They hope, however, that the superior advantages, which are offered by the Bill to the annual commuter, will, in the case of fertile fields, induce most cultivators to elect this mode of assessment.

5. The Sub-Committee are satisfied from the inquiries made by them that the two systems of commutation provided by the Bill as referred to them are inapplicable to what is commonly called "dry-grain," *i. e.* to *el-ni* (or hill-paddy), and all the kinds of taxable produce, which do not come under the denomination of paddy. They have accordingly provided (§ 13) a special mode of assessing the tax payable on these kinds of produce. The payment is to be in money and not in kind, and the amount is to be assessed and payable every year in which the land yields a crop.

6. Some of the members of the Sub-Committee are of opinion that the tax or duty on "dry-grain" should be abolished. The other members, having regard to the fact that the greater part of the duty on "dry grain" is paid by the Northern Province, and that the revenue derived from this Province does not defray the expenses of its administration, while they refrain from expressing any approval of this tax on principle, still think it should not be swept away, until some other more satisfactory impost can be substituted for it.

7. The concession of the right of election in all cases of paddy cultivation between the adoption of a commutation payable annually and one payable in crop-producing years only, and the introduction of a special provision for the assessment and payment of the tax on "dry grain" have necessitated a number of verbal alterations throughout the Bill, which will be found in the amended draft, but which it is unnecessary to particularize.

8. These amendments have also rendered it necessary to alter in some respects the terminology of the Bill. In the amended Bill, the fixed commutation which is payable every year, whether the land produces a crop or not, is termed "annual-commutation;" the fixed commutation, which is payable in crop-producing years only, is termed "crop-commutation;" the commutation, which varies with the crop, and is payable in crop-producing years only, is termed "grain-duty." The last is only applicable to "dry-grain."

GRAIN TAX BILL.

REPORT.

9. The Sub-Committee have carefully considered the question as to the proper mode of fixing the price of paddy, for the purpose of determining the amount of annual-commutation and crop-commutation payable. For the former they have taken the average price of paddy per bushel prevailing in the district during the fourteen years preceding the enquiry; for the latter the average price of paddy per bushel prevailing in the district during the *seven* years preceding the enquiry. As the average price of paddy has been much higher during the last seven years than during the preceding seven years, a very considerable additional advantage will be thus given to the annual-commuter over the crop-commuter.

10. The Sub-Committee have given much attention to the important question of fixing the time of year at which the annual-commutation should be made payable. After taking much evidence on the point, they have come to the conclusion that it will not be desirable to fix any one particular time for all districts. And they accordingly recommend that the provision, which makes the 31st day of March the day of payment generally, but authorizes the Governor and Executive Council to fix a later day in any specified district or districts, should stand. They express a hope that, in carrying out the provisions of the measure, care will be taken to make, as far as possible, the annual-commutation payable at that time of the year in each district, when the cultivator is most likely to have the means in his hands for paying it.

11. The remaining alterations of the Bill which the Sub-Committee have to suggest will be found in the amended draft, but do not require special reference.

12. The Sub-Committee are satisfied from the inquiries which they have made and the information which they have received, that the success of the measure will depend much upon the Commissioner or Commissioners, to whom the duty of carrying it into effect will be entrusted. They venture to express a hope that gentlemen will be selected for this office whose sympathies will be with the people, the object of the Government being, not the increase of the revenue, but the settlement of this branch of taxation upon a sound and equitable basis.

Legislative Council Chamber,
Colombo, 9th December, 1878.

J. DOUGLAS,
RICHARD CAYLEY,
F. R. SAUNDERS,
W. D. WRIGHT,
M. COOMARA SWAMY,
J. VANLANGENBERG,
J. P. OBEYESEKARA,
G. B. LEECHMAN,

XXXV.

CORRESPONDENCE

RELATING TO THE

MATTAKKULIYA RAILWAY.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

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CORRESPONDENCE

RELATING TO THE

PROPOSED RAILWAY TO MATTAKKULIYA.

No. 1.

The Hon. the SURVEYOR-GENERAL to the Hon. the COLONIAL SECRETARY.

MATTAKKULIYA RAILWAY.

CORRESPONDENCE.

No. 1.

No. 26.

Surveyor-General's Office,
Colombo, 27th January, 1876.

SIR,—IN compliance with your instructions I have the honor to report that Mr. Stoddart has made a careful trace for a railway from Maradana to Mattakkuliya, and I now forward a report by him accompanied by a plan and estimate of the probable cost of the work. I think the alternative trace coloured yellow, which is a quarter of a mile shorter than the one for which Mr. Stoddart has estimated, will answer all the requirements of the river traffic and will have the advantage of costing less. The quantities have been carefully taken out, and the prices allowed are, in my opinion, fair.

Longitudinal and cross sections are in course of preparation and will be submitted in a few days.

I have, &c.,
A. B. FYERS, Lt.-Colonel R.E.,
Surveyor-General.

Enclosure in No. 1.

REPORT by Mr. Assistant Surveyor J. STODDART.

Surveyor-General's Office,
Colombo, 26th January, 1876.

SIR,—IN accordance with your instructions I have laid out and surveyed the trace for a railway from Maradana terminus to Mattakkuliya, and have now the honor to submit preliminary plans, sections, and estimates for its construction.

The route I have chosen with the view of accommodating the general public, the various oil and coffee stores, and the general traffic by the Kelaniya river and Negombo canals, may be briefly described as follows.

Starting from the main line at the Maradana bridge, the trace passes Middleton's saw mill, and runs almost parallel to Skinner's road over the canal near Belmont (Hulfsdorp) mills (into which a siding can be run) across the accommodation road leading to Mudaliyar Bandaranayaka's property called "Paradise," skirting the back of the buildings from this private road to Grandpass, between which, Layard's Broadway, and Armour-street there will be a station for goods and passengers. This station will be quite central for the large population and the coffee mills in Kochchikada and Grandpass.

From the Grandpass station the trace goes by the back of Green Lodge to Kotahena mills, through which it passes at the lower end of the barbacues; it then curves onwards through the cocoanut gardens to Uplands mills on the Alutmawatta road, where it is proposed to have a station and siding.

From Uplands it curves round to the back of Blumendahl mills, passing close to the lower end of the barbacue; then along the edge of the gardens to Madampitiya road, where it is proposed to have a station for the accommodation of the large population who live in the vicinity of St James's Church, Sir Richard Morgan's and Mr. Injipakse's residences. This station would only be five-eighths of a mile from the Bridge-of-boats; a considerable passenger traffic might therefore be expected from that quarter.

Leaving Madampitiya road, the trace crosses Daniels' road and skirts the low land to the Mattakkuliya road, which it crosses within 300 yards of the present landing place near the mouth of the Kelaniya. I propose to have a passenger station here.

On entering Adrian Perera's compound after crossing the Mattakkuliya road I have laid out two traces, the one (A B) direct to Mattakkuliya Farm and the other (A C) 380 yards longer, curving round by St. Mary's church and Kelaniya mills My estimates are for the shorter route.

.TTAKKULI-RAILWAY.

RESPONDENCE.

No. 1.

I propose having the terminal station in the Mattakkuliya Farm alongside of the natural basin (evidently an old channel of the river), one-fourth of a mile from Mattakkuliya mills and the same distance from Kelaniya mills.

To accommodate the large boat traffic by the Negombo canals and the river I propose to clean out and widen this old channel between the road and river (DE), and to build a wharf wall for the boats to lie alongside of to load and discharge their cargoes. The improvement of this communication with the river and railway must form a separate estimate, after a survey is made.

It has been suggested to extend the communication with the river right through from D to E, but if this were done the course of the river would be shorter than it is at present, and the scour during floods would, in all probability, have the effect of silting up the entrance to the Hamilton canal, in addition to damaging the proposed wharf.

In my estimate of the cost of land to be taken up I have given what I consider a fair valuation, considerably higher than I should have assessed for Municipal taxation, but I find, from experience, that the rates given by assessors for lands to be taken up for public purposes are generally far in excess of anything they would be willing to pay taxation for.

To make up the embankment along Skinner's road and on to Kotahéna to formation level I propose taking up high land in the most convenient and least expensive spots; the first between Skinner's road, the trace, and Middleton's saw mill, and the next near Kotahéna mills. Beyond the Kotahéna mills the cuttings can be run to bank.

The present estimates for construction, permanent way, stations, fencing and telegraphs, based upon work done in the Colony, are liberal and not likely to be exceeded.

In permanently setting out the line slight alterations might be made to reduce the cost of construction a little.

An alternative trace and terminus alongside of the river at Mattakkuliya mills, as shewn in yellow on tracing, would shorten the line by one-fourth of a mile, and would suit the river traffic as well as the trace I have made, and there would be only a wharf wall to build and ground to make up for the station, as against the wharf wall ground to be made up at Mattakkuliya Farm, and the deepening and widening of the inlet. I shall prepare a section and estimate of this portion, if deemed necessary.

I have, &c.,

J. STODDART,
Assistant Surveyor.

ESTIMATE FOR MATTAKKULIYA RAILWAY, 4¼ MILES.

	Rs.
Earthwork, Cuttings and Embankments	112,860
Bridges and Culverts	12,828
Road diversion	3,000
Level crossings, gates, signals, and signal-houses ...	9,200
Permanent way and ballasting (rails, &c., the same as on the Moratuwa line)	99,153
Stations	78,302
Wire Fencing	12,750
	Rs. 328,093
Administration and Contingencies, 12 per cent. ...	45,361
Telegraphs	3,000
Land	94,900
Total ...	Rs. 471,354

J. STODDART,
Assistant Surveyor.

27th January, 1876.

No. 2.

No. 2.

The Hon. the COLONIAL SECRETARY to the TRAFFIC MANAGER, Ceylon Government Railway.

Colonial Secretary's Office,
Colombo, 31st January, 1876.

No. 21.

SIR,—I AM directed to request that you will furnish me without delay with returns of traffic on the proposed railway from Maradana to Mattakkuliya.

I enclose for your guidance a letter from the Surveyor-General indicating the route of the line.

I am, &c.,

GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 3.

No. 3.

The TRAFFIC MANAGER, Ceylon Government Railway, to the Hon. the COLONIAL SECRETARY.

No: 21.

Ceylon Government Railway,
Traffic Manager's Office,
Colombo, 2nd February, 1876.

SIR,—IN reply to your letter of 31st ultimo, No. 21, directing me to furnish returns of traffic on the proposed railway from Maradana to Mattakkuliya, I have the honor to request information whether, in preparing the estimate, I may assume that the line will be in direct communication with the wharf.

I observe that the plan which accompanied the Surveyor-General's letter to you has not been sent to me, so I am without information as to the distances between stations.

I am, &c.,
E. ROBINSON,
Traffic Manager.

No. 4.

No. 4.

The Hon. the COLONIAL SECRETARY to the TRAFFIC MANAGER, Ceylon Government Railway.

Colonial Secretary's Office,
No. 27. Colombo, February 9th, 1876.

SIR,—WITH reference to your letter No. 21 of the 2nd instant, I am directed to acquaint you that the line will not be in direct communication with the wharf at first.

The plan referred to in your letter has been sent to you direct by the Governor.

GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 5.

No. 5.

The TRAFFIC MANAGER, Ceylon Government Railway, to the Hon. the COLONIAL SECRETARY.

Ceylon Government Railway,
Traffic Manager's Office,
No. 43. Colombo, 8th March, 1876.

SIR,—I HAVE the honor to acknowledge your letter of the 31st January, No. 21, requesting me to furnish you with returns of traffic on the proposed railway from Maradana to Mattakkuliya.

The general direction of the line as indicated in the report furnished by the Surveyor-General appears to me to be well selected for the purpose of serving the goods traffic to and from the various mills along its route, viz.: Hulfsdorp, Grandpass, Kotahena, Uplands, Blumendahl, Mattakkuliya, and Kelaniya, and that from the Negombo canal: but I doubt if it would serve the mills situate in Kochchikada

For passenger traffic the line selected seems to me to run too much on the outskirts of the populous parts of the town; this, however, may be necessary from an engineering point of view.

I have not called for information from the various mill-owners as to the traffic to and from their respective mills which would pass over the proposed railway: nor have I attempted to estimate the number of passengers which would travel by it; as it seems to me that there are two conditions (at present unfulfilled) absolutely essential to the financial success of the line. I refer to direct communication with the Wharf for goods traffic; and to a general passenger terminus, for all the Colombo lines, at a point between the Fort and the Pettah. In the case of goods traffic, communication with the wharf is necessary to ensure to the line the traffic between the above-mentioned mills and the wharf; and in the case of passenger traffic, interchange with the other lines and a terminal station near the Fort and the Pettah are absolutely essential.

There are, therefore, in my opinion, two courses open to the Government; one, to undertake the construction of the proposed line at once, and work it for a time at an uncertain rate of profit, or, it may be, without profit at all: the other, to defer the construction until the Breakwater works are further advanced and railway communication with the wharf is about to be established, and a more central station for passengers has been finally determined on.

I regret that owing to indisposition I have not been able to reply to your letter at an earlier date.

I am, &c.,
E. ROBINSON,
Traffic Manager.

MATTAKKULIYA RAILWAY.

CORRESPONDENCE.

No. 6

No. 6.

The Hon. the COLONIAL SECRETARY to the TRAFFIC MANAGER, Ceylon Government Railway.

No. 23.

Colonial Secretary's Office,
Colombo, 31st January, 1878.

SIR,—WITH reference to your letter No. 43 of the 8th March, 1876, I am directed to transmit to you a tracing of the proposed line to Mattakkuliya, and I am to request you to send in detailed estimates of the probable receipts from traffic.

I am, &c.,
J. A. SWETTENHAM,
for Colonial Secretary.

No. 7.

No. 7.

The SECRETARY, Colombo Municipal Council, to the Hon. the COLONIAL SECRETARY.

Town Hall,
Colombo, 25th February, 1878.

No. 16.

SIR,—I AM directed to transmit to you for the favourable consideration of the Government the following resolution adopted by the Municipal Council at a meeting held on the 20th instant:—

Resolution.

"That as there are at present in Ceylon several agents of railway contractors, preparing to tender for the various proposed lines of railway, the Government be asked in fulfilment of the pledge given at the last session of the Legislative Council, to give early consideration to the proposed Mutwal and Mattakkuliya line, and to call for tenders as soon as possible.

"The want of proper and speedy means of locomotion through the north parts of the city is becoming a most serious matter, and, in the opinion of this Council, deserves the immediate attention of Government."

I am, &c.,
EDWIN LUDOVICI,
Secretary, Municipal Council.

No. 8.

No. 8.

The Hon. the COLONIAL SECRETARY to the CHAIRMAN, Colombo Municipal Council.

Colonial Secretary's Office,
Colombo, June 11th, 1878.

No. 35.

SIR,—WITH reference to your Secretary's letter No. 16 of the 25th February last I am directed to transmit to you the enclosed letter from the Surveyor-General together with its enclosures, and to state that the cost of the line referred to in that letter is estimated at 471,374 rupees, but that judging by the experience of the Government in the compensation awarded for land for the railway passing through Slave Island and in many other instances, the sum estimated for the land required for the Mattakkuliya railway is too small, and that it would not probably be safe to estimate less than 130,000 rupees for the land instead of 94,900 rupees. This would swell the estimate to 556,454 rupees. The Traffic Manager estimates the probable traffic receipts at a total annual sum of 87,440 rupees. Assuming that, as on the branch lines, the working expenses are about 50 per cent., this will give an annual profit of 43,720 rupees, equivalent to about 7¾ per cent. if the estimates for construction be not exceeded.

It appears, however, doubtful whether the line selected and shewn in the enclosed plans is that which would best meet the wants of the town; and as it would be in the highest degree impolitic to choose a line which would not do that, the Governor will be glad to be favoured with the opinion of the Municipal Council as to the line which would in their opinion be the best adapted to meet the public convenience.

In this connection it is necessary to observe that it has been strongly urged that the goods traffic from the mills on this line of railway would be better served by a series of canals than by a railway.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 9.

No. 9.

The TRAFFIC MANAGER, Ceylon Government Railway, to the Hon. the COLONIAL SECRETARY.

Ceylon Government Railway,
Traffic Manager's Office,
Colombo, 31st May, 1878.

No. 159.

SIR,—WITH reference to your letters No. 23 of the 31st January and No. 92 of the 7th instant, I have the honor to submit herewith an estimate of traffic for the proposed Mattakkuliya railway. The trace made by the Surveyor-General appears to have been chosen with a view to secure as fully as possible the goods traffic to and from the mills between Maradana and Mattakkuliya, and to do this the main stream of passenger traffic has to be avoided. I think that far better traffic receipts would result if a route were

chosen which would catch the passenger traffic right from Mattakkuliya to the Pettah and Fort.

The estimate of goods traffic to and from the different mills served by the Surveyor-General's trace is dependent on those mills being connected with the line by sidings so as to avoid cartage; the traffic from the mills to the wharf will not be secured unless every facility can be given for despatch of export goods to the wharf, as goods for shipment have to be sent down at very short notice "to meet the irregular and unforeseen wants of calling steamers," as one of the Colombo merchants, very largely interested, writes to me. This, under the present arrangements for working the wharf railway, cannot be done, as goods can only be worked to and from the wharf before work at the breakwater commences, after it ceases, and during the breakfast hour.

I estimate the annual goods traffic receipts at 45,440 rupees. I estimate the annual coaching receipts at 6,000 rupees per mile—say 7 miles at 6,000 rupees, 42,000 rupees—making the gross estimated receipts 87,440 rupees.

I have taken a very low figure for coaching receipts for the reason above stated, viz., that I do not think the present trace is calculated to secure the town passenger traffic. I may state that the receipts (coaching) for the Panadure branch line last year were about 11,600 rupees per mile per annum.

I have the honor to attach a tabulated estimate, and to return the tracing which accompanied your letter.

I am, &c.,
GEO. S. MURDOCH,
Acting Traffic Manager.

ESTIMATE of Goods Traffic for proposed Mattakkuliya Railway.

Mills.	To and from Wharf. Direction of traffic.	Tons.	Rate per ton.	Amount.	To and from Maradana. Direction of Traffic	Tons	Rate per ton	Amount.
		Rs.	R. Cts.	Rs Cts.		Rs.	R. Cts.	Rs. Cts.
Hulfsdorp ...	Down	12,500	0 50	6,250 0	Down & Up.	6,000	0 37	2,220 0
	Up	6,000	0 50	3,000 0				
Kotahena ...	Down	1,500	0 62	930 0	Down	2,000	0 50	1,000 0
	Up	500	0 62	310 0	Up	500	0 50	250 0
Uplands ...	Down	4,000	0 75	3,000 0	Down	9,000	0 62	5,580 0
	Up	...	...	..	Up	1,000	0 62	620 0
Blumendahl ...	Down	3,000	0 87	2,610 0	Down	4,500	0 75	3,375 0
	Up	500	0 87	435 0	Up	600	0 75	450 0
Mattakkuliya (Stevenson's)	Down	4,000	1 0	4,000 0	Down	1,000	0 90	900 0
	Up	2,000	1 0	2,000 0	Up	1,500	0 90	1,350 0
Mattakkuliya (Armitage)	Down	4,500	1 12	5,040 0	...	..	...	...
	Up	1,000	1 12	1,120 0	Up	1,000	1 0	1,000 0
Total ..	...	39,500	...	28,695 0	...	27,100	...	16,745 0

Summary.

Goods traffic between Wharf and Mattakkuliya line, tons ...	39,500	...	28,695 0
Do. between Maradana and Mattakkuliya line .	27,100	...	16,745 0
Tons...	66,600	...	45,440 0
Coaching, 7 miles at 6,000 rupees ...	...	...	42,000 0
Total estimated Receipts ...	...	...	87,440 0

Traffic Manager's Office,
Colombo, 31st May, 1878.

GEO. S. MURDOCH,
Acting Traffic Manager.

No. 10.

No. 10.

The SECRETARY, Colombo Municipal Council, to the Hon. the COLONIAL SECRETARY.

Town Hall,
No. 54. Colombo, 9th July, 1878.

SIR,—WITH reference to your letter No. 35 of the 11th ultimo, regarding the proposed railway to Mattakkuliya, I am directed to state that the Council are of opinion that the line as traced from the Mattakkuliya ferry to the proposed station at Layard's Broadway is the one best adapted to meet the public convenience. Before offering any opinion as to the remaining portion of the trace between Layard's Broadway and the Fort and

MATTAKKULIYA RAILWAY.

CORRESPONDENCE.

No. 10.

wharf, it is considered necessary that the ground should be examined and a survey and report furnished, and the Council consider this work of such importance that they trust the Government will lose no time in obtaining the necessary information on the subject.

With regard to the question of canals, I am to state that as there are no plans or particulars before the Council of the proposed canals referred to in your letter, they do not commit themselves to any expression of opinion on the subject, but they consider that the question of canals should be dealt with separately, on its own merits, and from the information before them they cannot think there is at present any strong opinion in favour of canals, especially if they are intended as a substitute for the railway.

I am, &c.,
EDWIN LUDOVICI,
Secretary, Municipal Council.

No. 11.

No. 11.

The SECRETARY, Colombo Municipal Council, to the Hon. the COLONIAL SECRETARY.

Town Hall,
No. 65. Colombo, 18th July, 1878.

SIR,—REFERRING to the report and estimate which accompanied your letter No. 41 of the 29th ultimo, I am directed to point out that no estimates have been made for salt and other goods in addition to the traffic returns from the several mills, and the coaching receipts appear to the Council to be estimated exceedingly low, as they see no reason why the coaching receipts on the proposed line should not be quite as high as on the Panadure branch line.

I am, &c.,
EDWIN LUDOVICI,
Secretary, Municipal Council.

No. 12.

No. 12.

The SECRETARY, Colombo Municipal Council, to the Hon. the COLONIAL SECRETARY.

Town Hall,
No. 66. Colombo, 19th July, 1878.

SIR,—I AM directed to return the papers called for in your letter No. 46 of the 18th instant, and to transmit to you printed copies of the correspondence, &c., bearing on the Mattakkuliya railway for more easy reference. I am also to request that a copy of the plan herewith returned (which has been added to since it was received) may be furnished to the Council for reference.

I am, &c.,
EDWIN LUDOVICI,
Secretary, Municipal Council.

No. 13

No. 13.

The Hon. the SURVEYOR-GENERAL to the Hon. the COLONIAL SECRETARY.

Surveyor-General's Office,
No. 348. Colombo, 28th August, 1878.

SIR,—IN compliance with the instructions contained in your letter No. 255 of 22nd ultimo, I have the honor to state that I requested Mr. Symonds, my Office Assistant, to make a thorough examination of the ground between Layard's Broadway and the Fort, in order that the most advantageous trace for a railway might be determined.

2. I forward Mr. Symond's report on the subject and a tracing, shewing two different lines which can be constructed without any engineering difficulties whatever.

3. One line coloured red curves round by Green-street, Jampettah-street, and Korteboam, and reaches the seashore opposite St. Thomas's Church, and thence passes along Seashore-street and the back of Bankshall-street to the front of the Racket Court Gardens, whence one line for passenger traffic goes to the Fort station, and another for goods traffic to the Custom House.

4. The objection to this line is, first, the number of level-crossings in places where there is a large amount of traffic; and, secondly, the expense either of taking up land if the railway be carried along the existing Seashore-street and thereby necessitating the destruction of a portion of the Hindu temples near which it passes, or of taking it outside the existing roads and thereby entailing the expense of building an expensive sea-wall, and making up to formation level as shewn in yellow in the tracing.

5. The distance by this line from Layard's Broadway to the Fort station is 148 chains, exclusive of the portion for goods from the Racket Court to the Custom House, which is 38 chains in length.

6. The station at St. Thomas's would no doubt be a paying one, as there is a considerable amount of traffic from the neighbourhood.

7. The steepest gradient in this line is 1 in 112.

8. The second line is the one which appears to me to be in every way the more advantageous of the two: after leaving Layard's Broadway and passing Grandpass and Armour-streets it enters the back gardens of the houses which face Silversmith and Messenger-streets, and runs through these gardens to Kuruwe-street, where a station should be established which would serve the Law Courts, only about one-fifth of a mile distant.

9. From Kuruwe-street the line passes through a portion of the town which requires opening up on sanitary grounds, but after reaching the Kachchéri it proceeds through Crown land, passing at the back of the Gas Works and through the Government Factory grounds across Norris road to the existing line near the Pettah station.

10. The steepest gradient in this trace is 1 in 120.

11. The total length of this line from Layard's Broadway to the junction with the present line at the Pettah station is 94 chains, or 1·18 mile, whereas the distance of the seashore line is 148 chains, or 1·85 mile, exclusive of the branch leading to the Custom House, which would not be required by the other line, as the goods trucks would proceed from the Pettah station by the existing line through the Galle Buck to the Custom House.

12. The seashore line passes almost entirely through private property, unless the expense of building a sea wall be incurred; the alternative line, which is 54 chains shorter, passes through Crown land for upwards of one-third of its length.

13. This line also passes through the centre of a densely populated part of the town, and the proposed station near the Law Courts is more central than the one at St. Thomas's.

14. I beg to recommend that the lines of which the traces are given be referred to the Resident Engineer of the Railway, in order that he may prepare an estimate of their probable cost.

15. An opinion has been expressed that this line to Mattakkuliya should be solely for passenger traffic; with this I entirely differ, as it is of great importance that the cart traffic through the streets should be diminished, and the line has been laid out for the express purpose of benefiting the owners of as many coffee stores as possible. I have also been authorized to state that if there is likely to be any difficulty on the score of want of trucks, the proprietors of the different mills are willing to provide them at their own expense.

I have, &c.,
A. B. FYERS, LIEUT.-COLONEL R.E.,
Surveyor-General.

Enclosure in No. 13.

REPORT of Mr. Assistant Surveyor G. H. SYMON.

Surveyor-General's Office,
Colombo, 28th August, 1878.

SIR,—As directed by you I have the honor to report that I have gone over the ground with a view of ascertaining the most desirable route for a line of railway from Layard's Broadway to the Fort and Wharf. I have found two distinct lines, both of which have their advantages and drawbacks, and both present features for deviations to be hereafter determined on the score of expense.

The first, and more generally talked about, is that from Layard's Broadway (where Mr. Stoddart in his report dated 26th January, 1876, says the station will be quite central for the large population and the coffee mills in Kochchikada and Grandpass) to the Fort viâ Jampetta-street and the seashore.

In order to get round and through the head of the swamp at Layard's Broadway station I have had to lay out a 10-chain curve extending in length to 572 yards, and this lands the trace on dry but not valuable property at the back of Green-street. From Layard's Broadway the trace rises 7·48 feet to cross Galpatta-street, which will have to be lowered about 3 feet to avoid a stiff gradient beyond it; and as the street is but a minor one, no great inconvenience will result from the lowering of the crossing. It then goes through some shoemakers' huts and to the back of Law, Brown and Company's mills, where a siding can be constructed for their accommodation on their own land. The trace then runs through the back gardens of a few houses in Jampetta-street, and crosses the street itself on a level at a spot where there is no house property in the way. From this in a straight line it runs to Korteboam-street and through some houses to St. Thomas's latrine on the seashore, where a station should be established to accommodate the inhabitants of that densely-populated part of the city. It may then be taken along Seashore road as shewn in red on plan, but to do so land on the east of that road, tinted green, will have to be taken up for the reconstruction of the cart road; and this is one of the difficulties.

The Hindu temples extend from Sea-street to Seashore road, consequently a portion of the land on which they stand will have to be acquired, and the taking up of it may create some disturbance amongst the devotees.

The difficulty may be overcome by erecting a new sea wall and taking the line outside of the present road, as shewn in yellow to St. John's warehouse, but the cost of the sea-wall and the filling up to formation level will form an important item in the cost of construction. From St. John's warehouse to the Racket Court along the sea shore at the back of the houses in Bankshall-street no difficulty is experienced; it can either be run into the back of the houses as shewn in red, or along the sea shore as shewn in yellow. As encroachments on the foreshore have been made by some of the

MATTAKKULIYA RAILWAY

CORRESPONDENCE

owners the expense of taking up the land required will not be great; and, on the other hand, as the shore along this portion of the line is under the protection of the Breakwater, no very expensive sea-wall would be required, were the yellow line adopted, and which runs clear of all private property. A 10-chain curve takes the trace round the north-western corner of the Lotus Pond and then into the line at present used by the contractor for the Kalutara extension, which is connected with the Fort station. From the Lotus Pond another branch for goods traffic can be taken along the present road or through the space now being reclaimed into the Customs premises, when it would join the Wharf line.

The total distance from Layard's Broadway to the Fort station is 1 mile and 1496 yards; the greatest height the line attains is at Galpotta-street, where it will be 17 feet above sea level, if the roadway is lowered 3 feet; and the heavest gradient is 1 in 112.

The expensive works are an embankment at Layard's Broadway, and either the sea wall between St. Thomas's latrine and St. John's warehouse or the acquisition of the land along and east of Seashore road. It passes through no other very valuable property, and the station at St. Thomas's is a very desirable one.

The second line which I propose, and would recommend, is coloured blue, and leaves Mr. Stoddart's trace at Layard's Broadway. It crosses Grandpass-street and Armour-street on a 10-chain curve into the back gardens of the houses facing Silversmith-street and Messenger-street, and then runs parallel with or between these streets through open and waste grounds to Kuruwe-street, which it crosses 90 feet north of Old Moor-street. At this crossing a station may be established to accommodate the passenger traffic to and from the Law Courts from which it is distant 380 yards. It is also in the midst of a dense population. From Kuruwe-street to the Kachcheri the line runs along the back boundaries of the properties facing Old and New Moor-streets for a distance of a quarter of a mile. It will destroy but few dwelling houses of any value, and open up perhaps the most abominably filthy locality in the whole of Colombo not excepting Slave Island. The cost of acquiring the land, about two acres, if one chain wide is taken, will be an item for consideration, but whether it is taken now or hereafter, it must, on sanitary grounds alone, at no distant date, be faced by authority. To illustrate more fully the necessity of ventilating the compounds between Old and New Moor-streets, I annex a tracing from the Town Plans (marked A) which shews its crowded condition. At the Kachcheri where the line crosses Dam-street a station would be convenient and remunerative. From this station to the present Pettah station the line passes through Crown lands, viz., through the Kachcheri grass land to the back of the Gas Works, between the superintendent's house and the Public Works Department Factory, with which it does not interfere, and then across Norris-road to the present line.

The total length of this line from Layard's Broadway to the Pettah station is 1 mile and 308 yards; the greatest height it attains is 27 feet above mean sea level; and the heaviest gradient 1 in 120.

A longitudinal section of the line viâ the seashore accompanies the plan, and a section of the shorter line viâ the Kachcheri will be prepared and forwarded in a few days.

I have, &c.,
G. H. SYMONDS.

No. 14

No. 14.

The Hon. the COLONIAL SECRETARY to the Hon. the SURVEYOR-GENERAL.

Colonial Secretary's Office,
No. 344. Colombo, 13th September, 1878.

SIR,—I AM directed to acknowledge with thanks the receipt of your letter No. 348 of the 28th ultimo, and to state that in accordance with your suggestion the Engineer of the railway has been requested to furnish estimates of the probable cost of the alternative lines.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 15.

No. 15.

The Hon. the COLONIAL SECRETARY to the CHIEF RESIDENT ENGINEER.

No. 216. Colonial Secretary's Office,
Colombo, 12th September, 1878.

SIR,—I AM directed to refer to you the enclosed letter from the Surveyor-General, together with its enclosures, and to request you to be good enough to cause estimates to be made of the probable cost of the two lines of railway from Layard's Broadway to join the existing lines proposed by the Surveyor-General, so that a judgment may be formed as to which will be the least expensive. The Governor will be glad to be favoured also with your own opinion as to which is the best line. In estimating the cost of the "seashore line" you must include the expense of a sea-wall and the requisite filling in between the station on the seashore at St. Thomas's and St. John's warehouse, as His Excellency is not prepared to consent to the demolition of the Hindu temples in that quarter.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 16.

No. 16.

The Hon. the SURVEYOR-GENERAL to the Hon. the COLONIAL SECRETARY.

Surveyor-General's Office,
No. 369. Colombo, 6th September, 1878.

SIR,—ADVERTING to my letter No. 348 of the 28th ultimo, I have the honor to forward a longitudinal section of the proposed line of railway from Layard's Broadway to the Pettah station.

The section shews very easy gradients with sufficient cutting to make up the embankments required at the Factory and at Layard's Broadway.

I am, &c.,
A. B. FYERS, LIEUT.-COL. R.E.,
Surveyor-General.

No. 17.

No. 17.

The Hon. the COLONIAL SECRETARY to the CHIEF RESIDENT ENGINEER.

Colonial Secretary's Office,
No. 217. Colombo, 13th September, 1878.

SIR,—IN connection with my letter No. 216 of the 12th instant, I am directed to refer to you the enclosed further letter from the Surveyor-General.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 18.

No. 18.

The Hon. the SURVEYOR-GENERAL to the Hon. the COLONIAL SECRETARY.

Surveyor-General's Office,
No. 400. Colombo, 21st September, 1878.

SIR,—WITH reference to my letter No. 348 of the 28th ultimo, I have the honor to recommend that the Engineer of the Railway may be instructed to furnish estimates of the probable cost, not only of the alternative lines from Layard's Broadway to the Fort, but of the whole length of each, including the portion of Mr Stoddart's trace from Layard's Broadway to Mattakkuliya, forwarded to you with my letter No. 20 of 27th January, 1876 which has been approved of by the Municipal Council and recommended to be adopted.

I have, &c.,
A. B. FYERS, LIEUT.-COL. R.E.,
Surveyor-General.

No. 19.

No. 19.

The Hon. the COLONIAL SECRETARY to the CHIEF RESIDENT ENGINEER.

Colonial Secretary's Office,
No. 234. Colombo, 26th September, 1878.

SIR,—WITH reference to my letter No. 216 of the 12th instant, I am directed to request you to furnish estimates of the probable cost not only of the alternative lines from Layard's Broadway to the Fort, but of the whole length of each, including the portion of Mr. Stoddart's trace from Layard's Broadway to Mattakkuliya ferry (which has been approved by the Municipal Council), described in the accompanying letter from the Surveyor-General.

I am, &c.,
GEO. T. M. O'BRIEN,
for Colonial Secretary.

No. 20

No. 20.

The CHIEF RESIDENT ENGINEER, to the Hon. COLONIAL SECRETARY.

Ceylon Government Railway,
Engineering Department,
No. 281. Colombo, 28th October, 1878.

SIR,—I HAVE carefully considered the reports and plans of the Surveyor-General which accompanied your letter No. 216 of 12th September, on the proposed railway through the town of Colombo. As none of the proposed lines are set out, there is not data to frame a very accurate estimate of cost upon. My estimates (which I attach) are

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therefore approximate, but still will closely give the probable cost of each undertaking. In none of the estimates have I included the cost of land and houses.

As His Excellency the Governor asks for an expression of my opinion as to which I consider is the best line, I will refer first to the line starting from near the Fort station, running along the seashore and then on to Layard's Broadway.

My opinion of this route is that the Fort station is not the point which the large majority of the population this line is intended to serve would wish to reach, and that to secure the passenger traffic the terminus of the line should be more in the centre of the native town.

To attain this I can only suggest that the terminal station of this route (if adapted) be on the site of the St. John's canal—now filled up—and midway between the general market and the Pettah station, and that from this point the line should run down to the sea beach passing on the west side of the market and crossing on the level the Main-street and then joining on to the line already shewn.

The level-crossing over this great thoroughfare at the Town Hall would, I know, be a great inconvenience, but still I consider it is absolutely necessary, to make the traffic along this route remunerative, that it should enter into the busy part of the native town.

I may further remark on this route, that although where it runs parallel to Sea-street it passes along, I suppose, the most densely inhabited part of Colombo, still I do not think this population should be looked upon as an element of railway traffic: the majority of the inhabitants are coolies engaged in the Sea-street rice stores, the wharf and the shipping; they are near to their work and near to their bazaar, and have little to induce them to travel. The traffic on this line will, therefore, be from and beyond St. Thomas's station.

This line beyond St. Thomas's station makes a considerable detour and, with sharp curves, reaches Layard's Broadway, at which point a large passenger traffic from the immediate vicinity of the station and from the Grandpass road and Bridge-of-boats would be secured, provided the town stations are placed at points near where the passengers would wish to reach.

If this line is continued beyond this point at Layard's Broadway, I am of opinion it should be in the direction of the Bridge-of-boats and not to Mattakkuliya, and that by whichever route the line is carried through the town of Colombo, I would advise its taking the direction of the Bridge-of-boats after reaching Layard's Broadway.

I do not believe that a line from Layard's Broadway to Mattakkuliya would pay, but I am confident a line from Layard's Broadway to the Bridge-of-boats would pay well and be a great public benefit.

As regards goods traffic in this short line, it has been found from long experience on railways in England and elsewhere, that for short distances the transport of goods by railway is not availed of. I see nothing in the circumstances here that would make an exception to what has been found to be the rule elsewhere; this railway, unless extended to Negombo, should, in my opinion, be considered only as a passenger line.

The second route proposed by the Surveyor-General starts from off the Breakwater line at a point west of the Pettah station, crosses the junction of the four roads there, passes through the Government Factory yard, comes out near the Kachcheri, where there is a station at the junction of Dam-street and Old Moor-street; it then runs between Old and New Moor-street and reaches Layard's Broadway at the same point as the sea shore route.

This line runs better through the busy parts of Colombo. The three stations—namely, the Pettah the one at foot of Dam-street, and Layard's Broadway—are all well situated for getting passenger traffic.

But the arrangement for the junction with the Breakwater line must be modified; the line there crossing four main thoroughfares is very objectionable. This road-crossing would be seven chains in length and would require not less than three gatemen constantly on duty. The junction being also on the wrong side of the Pettah station would necessitate all trains having to be backed in and backed out of the station. I am therefore of opinion that the junction of this route must be on the east side of the Pettah station.

The cost of construction by this route is considerably less than the other, but I think it would greatly disturb and inconvenience the inhabitants of the town.

Where the line passes between Old and New Moor-street the houses would to a great extent be deprived of their godowns; and as nearly all the householders are Mohammedans, they would, I think, be unwilling to such an inroad into the privacy of their houses.

The level-crossings over Messenger and Armour-streets would be found to be inconveniently situated for wheeled traffic on the road.

Having expressed my opinion on these two routes, I would now suggest, for the consideration of His Excellency, another line which I think would give greater facilities to the public for travelling, and at the same time give the least possible annoyance to the neighbourhood the railway would pass through

This route is shewn on the plan by the line coloured green. It starts from the Breakwater line at a point on the east side of the Pettah station, from which point until it reaches Dam-street it does not pass through any valuable property. The line would cross Dam-street at right angles and on the level; a station would here be placed, which would

I believe be the best site which could be found in Colombo. It is midway between the Courts of Law, the Kachcheri, and the market, and would ensure a large passenger traffic.

From this point the line would run straight, cross Old Moor-street on the level, pass below New Moor-street, Kuruwe-street, Barber-street, Chetty-street, Green-street. From the point where it enters below New Moor-street to where it emerges from under Green-street it would be an under-ground railway, for which distance the running of the trains would cause no annoyance to public thoroughfares or to the inhabitants. Passing from under Green-street the line would reach Layard's Broadway station, the terminus, until further extension to and beyond the Bridge-of-boats was decided upon.

This route would be so short and direct that the Panadure and Kalutara trains could alternately make Layard's Broadway station and Maradana Bridge station their point of arrival and departure, and with the addition of a short service train running at frequent intervals between Layard's Broadway, the Fort, and Maradana it would give to the residents of Colombo, what this climate so greatly requires, a cheap and easy means of conveyance between their homes and places of business. The revenue from this traffic with the light working expenses of this line should give a good return on the outlay, and I would advise the work by this route being undertaken. It would do no injury to the town, and be a great convenience, and further it would be in the right direction if the railway is extended to Negombo.

Should the line be carried on beyond Layard's Broadway station to the Bridge-of-boats, it should run as nearly parallel to the Grandpass road as the ground and houses would allow, and be along the edge of the marsh land. It would be on a low embankment for the whole distance, and the stuff from the tunnel and cutting would do much towards making up this embankment. The cost of construction from Layard's Broadway station to the Bridge-of-boats should not exceed 60,000 rupees per mile.

I have, &c.,

EDW. STRONG,
Resident Engineer.

ESTIMATE for Route No. 1, marked Red on Plan, starting from Fort Station running along Sea-street to Layard's Broadway.

	Rs.	Cts.
EARTHWORK.		
11,000 cubic yards at 75 cents per cubic yard	8,250	0
SEA-WALL AND EMBANKMENT.		
1,000 lineal yards at Rs. 45 per lineal yard	45,000	0
LEVEL-CROSSINGS.		
7 at Rs. 1,000 each	7,000	0
PERMANENT WAY (Complete).		
1 mile and 70 chains at Rs. 23,000 per mile ..	43,125	0
DRAINAGE.		
Side-drains and cross-drains	15,840	0
FENCING.		
3 miles and 14½ chains at Rs. 2,000 per mile	6,362	50
ROLLING STOCK.		
2 Locomotive Engines, 10 Third Class carriages, 2 Second Class carriages, 2 First Class carriages, and 2 Brake Vans	73,678	0
PASSENGER STATIONS.		
1 at Rs. 20,000 and 2 at Rs. 12,000	44,000	0
Engineering and contingencies	20,000	0
Total ..	Rs 263,255	50

MATTAKKULIYA RAILWAY.

CORRESPONDENCE.

No. 20.

ESTIMATE for Route No. 2, marked Blue on Plan, starting west of Pettah Station to Layard's Broadway, running between Old and New Moor-streets.

	Rs.	Cts.
EARTHWORK.		
32,548 cubic yards at Rs. 0·75 per cubic yard	24,411	0
PERMANENT WAY.		
1 mile and 16 chains at Rs. 23,000 per mile	27,592	90
LEVEL-CROSSINGS.		
9 at Rs. 1,000 each	9,000	0
PASSENGER STATIONS.		
2 at Rs. 12,000 each	24,000	0
DRAINAGE.		
Side-drains and cross-drains	21,120	0
FENCING.		
2 miles and 32 chains at Rs. 2,000 per mile	4,800	0
ROLLING STOCK.		
1 Locomotive Engine, 1 First Class carriage, 1 Second Class carriage, 5 Third Class carriages, and 1 Brake Van	36,839	0
Engineering and contingencies	12,000	0
Total .. Rs.	159,762	90

ESTIMATE for Route No. 3, marked Green on Plan, starting east of Pettah Station to Layard's Broadway, running underground from New Moor-street to Green-street.

	Rs.	Cts.
EARTHWORK.		
28,000 cubic yards at Rs. 1 per yard	28,000	0
TUNNEL.		
30[illegible] lineal yards at Rs. 450 per lineal yard	138,600	0
PERMANENT WAY.		
1 mile and 7 chains at Rs. 23,000 per mile	23,574	0
LEVEL-CROSSINGS.		
6 at Rs. 1,000 and 4 at Rs. 500	8,000	0
FENCING.		
1 mile and 62 chains at Rs. 2,000 per mile	3,550	0
DRAINAGE.		
Side drains and cross-drains . ..	4,000	0
ROAD BRIDGES.		
2 at Rs. [illegible],000 each . ..	10,600	0
PASSENGER STATIONS.		
2 at Rs. 12,000 each	24,000	0
ROLLING STOCK.		
1 Locomotive Engine, 1 First Class carriage, 1 Second Class carriage, 5 Third Class carriages, and 1 Brake Van	36,839	0
Engineering and contingencies	20,000	0
Total ... Rs.	296,563	0

28th October, 1878.

EDW. STRONG,
Resident Engineer.

No. 21.

From the SECRETARY, Colombo Municipal Council, to the Hon. the COLONIAL SECRETARY.

Town Hall,
No. 124. Colombo, 5th December, 1878.

SIR,—WITH reference to your letter No. 94 of the 20th ultimo, and the plans received with your letter No. 98 of the 27th ultimo, referring thereto, and herewith returned, I am directed to subjoin the following resolutions adopted by the Municipal Council on the 3rd instant :—

Resolutions.

"That the Council recommend to Government the adoption of the line colored green on the plan from the Pettah to Layard's Broadway, and that the question of the value of the land that would be required to be taken up for the purpose be left to Government."

"That the line colored green (above referred to) be continued to Mattakkuliya along the line colored red on the plan, the Council having already expressed an opinion that the trace in question is the best that can be adopted."

I am, &c.,
EDWIN LUDOVICI,
Secretary, Municipal Council

XXXVI.

GRAIN TAX BILL, 1878.

SPEECH OF THE HON. THE QUEEN'S ADVOCATE WHEN INTRODUCING THE BILL IN THE LEGISLATIVE COUNCIL,

AND THE

EVIDENCE TAKEN AND PAPERS LAID BEFORE THE SUB-COMMITTEE.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1879.

GRAIN TAX ORDINANCE, 1878.

Minutes of a Meeting, November 9th, 1878.

PRESENT.

The Hon. the QUEEN'S ADVOCATE.
" The GOVERNMENT AGENT, Western Province.
" The COLLECTOR OF CUSTOMS.
The Hon. Sir M. COOMARA SWAMY, KT.
" J. P. OBEYESEKARA.
" G. B. LEECHMAN.

THE HON. J. DOUGLAS, C.M.G., IN THE CHAIR.

Resolved that evidence be obtained from witnesses on the following points :—

1. Whether compulsory commutation is practicable in the case of fields which have produced a crop seven times at least in the last 14 years ?

2. Or whether an option between grain-commutation and grain-tax should be given to the cultivators in all cases ?

3. Whether seven years is a fair limit to fix ?

4. How many fold of yield will cover the cost of raising the crop from the time of the first ploughing to the time of removing the paddy from the threshing-floor ?

5. In what manner it can be best ascertained whether or not the yield of a field is three-fold of the quantity sown.

6. What is the best method of ascertaining the actual crops of any one field, and their value for the last 14 years ; and also the best method of estimating the probable value of the produce of any one field when cultivated in the ordinary course of husbandry ?

7. What is the best time to fix upon for the payment of commutation ?

Resolved that the following witnesses should be examined :—

A. B. WIKKRAMARATNE, Kachcheri Mudaliyar, Matara.
J. V. D. ILANGAKON, Mudaliyar of Weligam Korale, Matara.
JONATHAN SILVA, Proctor, Matara.
JAS. KARANARATNE, M.M.C., Proctor, Galle.
D. C. H. BANDARANAYAKA, Mudaliyar of Siyane Korale.
DANDRIS GUNARATNE, Mudaliyar of Rayigam Korale.
D. C. P. DIAS, President of Alutkuru Korale.
H. DIAS, Esq., Advocate.
The MAHA MUDALIYAR.
S. JAYETILLEKE, Mudaliyar, Kurunegala.
HALPE Ratemahatmaya.
SOMANADAR, President, Batticaloa South.
JOHN CROWTHER, Batticaloa.
The IRRIGATION VANNIYA, Batticaloa.
A. MAYILVAKANAM, Koppay, Jaffna.
ARUMUKAM NAVALAR, Jaffna.
The KACHCHERI MUDALIYAR, Jaffna.
MANIYAKAR of VALIKAMAM West.
The Government Agents :—Mr. HUME ; Mr. TWYNAM ; Mr. SHARPE ; Mr. DICKSON ; Mr. MOIR.
ROBERT DE SARAM, Wolfendahl, Colombo.

GRAIN TAX BILL, 1878.

SPEECH OF THE HON THE QUEEN'S ADVOCATE WHEN INTRODUCING THE BILL IN THE LEGISLATIVE COUNCIL.

GRAIN TAX ORDINANCE.

SPEECH OF THE HON. THE QUEEN' ADVOCATE.

THE Hon. the Queen's Advocate moved the first reading of "An Ordinance to make better provision for the due collection of the tax, duty or share due to the Government upon grain grown in the Island." He said: Your Excellency in your opening address referred to this Bill as being the most important to be laid before the Council during this Session, and in view of the great proportion of the people of this Island whose interests will be affected by this Bill, Your Excellency might have observed that it was the most important measure which had been proposed for many years or that would probably be laid before this Council for some time to come. I need hardly observe that the difficulty of the subject is scarcely less than its importance. It will be remembered that in the latter end of the year 1876 my lamented friend Mr. Alwis—whose voice, alas! is now silenced by death—who was always foremost in advocating the interests and upholding the privileges of the people he so well represented in this Council, moved for a Commission to inquire fully into this important subject. That Commission consisted of the most representative men that could be got together from the community, who, after obtaining voluminous evidence from persons of all races and classes in the Island, published their report about a year ago; it contained a great number of important conclusions and many valuable recommendations. The recommendations of this Commission have been, as Your Excellency has observed, substantially approved of by the Secretary of State, and it is upon those recommendations that the present Bill is mainly based. I will not occupy the time of the Council by going fully into the history and nature of what are commonly called grain taxes. All hon. members who have read the report of the Commission and the evidence upon which it was founded will be in possession of all the material facts and issues of the matter. But as I am aware that many persons whose opinion is deserving of weight consider that these taxes should be swept away altogether, and as this Bill, almost at the outset, expressly retains them, it may be right that I should say a few words in justification of this Ordinance. As hon members are aware, throughout this Island a certain share of the paddy grown has been from time immemorial, and still is, paid to the Government. The share varies according to the tenure of the land upon which the produce is grown. In the case of lands where the Crown has practically relinquished all or nearly all its rights, the tax or share is generally one-tenth. In the case of other lands, where the Crown still retains certain what may be called manorial rights, the tax or share due to the Government varies from one-fifth to one-half. In certain districts of the Kandyan Provinces that were conspicuous for their loyalty in the troubles of 1817, instead of one-tenth it was conceded to the owners of these lands that they should pay one-fourteenth only. The produce of lands belonging to temples in the Kandyan Provinces is free from taxation, as well as that of lands held by headmen during the tenure of their office. With these exceptions the produce of paddy on all lands throughout the Island pays some share to Government. In some parts of the Island, particularly, almost exclusively, in the Northern Province, a certain share of other grain crops is also paid to Government, as well as a share from paddy. These shares originally were paid and collected in kind only. But for many years the payment in kind has been abandoned, and these dues have been collected in two ways. One consists of an annual money payment by way of commutation extending over a number of years: the last commutation was made to extend over ten years. In all these cases commutation has been effected by agreement between the agents of the Crown and the cultivators. The other mode of collection, which is more largely in use than commutation, is by selling the right to collect these dues to certain middle-men, who are called renters, and who take upon themselves the burden of collecting the duty in kind It has been generally assumed in the many discussions with regard to these grain taxes, that they are almost universally collected through renters, but it is a fact, upon which, I think, I am entitled to lay great stress, that a very considerable portion has been and is collected by commutation. The Auditor-General has given me certain figures to shew how largely at the present time the cultivators avail themselves of commutation, which, I may observe, is optional to all. The total amount of revenue derived from these grain duties last year, including arrears of former years, was 1,303,856 rupees, of which the sum derived from the commuted grain taxes was no less than 391,576 rupees. In addition to these taxes or dues on home-grown grain we have the import duty on paddy and rice, amounting to sevenpence per bushel, which in point of fact, taking the market price of articles at Colombo, is about equivalent to the 10 per cent. tithe which, as a general rule, is the proportion of the tax on home-grown grain. You will therefore at once see that this import duty is in no sense a protective duty. In considering the question of the expediency or otherwise of abolishing these taxes, it is desirable to see what proportion

GRAIN TAX ORDINANCE.

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they contribute to the revenue of the country. Last year (1877) the amount of revenue derived from the home-grown grain tax was 1,303,856 rupees. That derived from imported grain was 2,109,072 rupees, making in all a sum of 3,412,928 rupees, or a little less than three and-a-half million rupees per annum. The entire revenue, as pointed out by Your Excellency in your opening address, amounted in that year (1877) to 17,260,191 rupees. Deducting from the general revenue the amount derived from the sale of Colonial stores, which, as has been observed, is merely a matter of cross entry, deducting also the amount obtained from the pearl fishery and from the sale of waste lands, we find that what may be fairly deemed to be the permanent revenue of 1877 was 14,479,918 rupees, so that, in point of fact, a little less than one-fourth of the entire permanent revenue of the country is derivable from duties on grain. Now, whatever opinion there may be on the abstract question as to the advisability of taxing the staple food of the people, I think we shall all agree that unless this system can be superseded by another equally or nearly equally productive, it would be exceedingly rash to abandon it. The time possibly may come in future years when a considerable portion of this tax may be remitted, but I think all will agree that this time has not come yet. We are now engaged in carrying on a number of very important and useful works, for the completion of which the credit of the Colony is almost pledged. We have already incurred considerable liabilities in procuring funds for these works, and we have in prospect still further liabilities yet to be incurred. It would be exceedingly dangerous at this juncture to relinquish so important a source of revenue unless it can be superseded by some other source equally productive. In fact, it would not be an extreme statement to say that we could not abandon this source of revenue without imperilling the credit of the Colony, and arresting the progress of material improvement throughout the length and breadth of the Island. No doubt there is a good deal to be said on general principles against taxing the staple food of a people. It is, I am aware, contrary to all English notions on the subject, which have been generally accepted during the last 25 or 30 years; but in applying English notions on this matter to an Oriental country like Ceylon, where the circumstances and conditions of life are altogether different, care must be taken lest we be led by fallacious analogies into inferences which are plausible rather than true, and which, if carried out into practice, might be followed by very mischievous consequences. There is no doubt, as a general principle, that taxes should fall upon the classes that are above the very poorest—that wealth and luxury should be taxed rather than the necessaries of life—and in a country like England, where property is so unevenly distributed, where luxuries are so widely dispersed, and where there is so great a contrast between great wealth, on the one hand, and poverty on the other, principles of this kind meet necessarily with universal approval; but in this country things are very different. Property is very evenly distributed. Few, if any, in Ceylon are very rich. Few, if any, are in actual want of the necessaries of life. The circumstances and conditions of life are very simple. Everywhere, *victitur exiguo*. Luxuries are hardly known or, at least, are not sought for, and great wealth and absolute destitution are equally rare. These are not my own opinions. In proof of these facts which I have stated, I would cite the words of the late Mr. Alwis—who, if anyone did, certainly knew the condition as well as the feelings of his countrymen. In the speech in which he moved for the Commission I have already referred to, he quoted some words of his own employed on a previous occasion. He said: "No one intimately acquainted with the people can believe in the existence of any real destitution amongst them." Of course, I am speaking, as Mr. Alwis was speaking, of the general condition of the people, not of exceptional times and seasons when, no doubt, scarcity and suffering may prevail. But these are exceptional cases, which must always be dealt with by exceptional measures of remission. Mr. Alwis was speaking of the general condition of the people, and I think most people will agree with him in what he says on this subject. In this view of things, it seems perfectly clear that there is no means of compelling the people of this country to pay their fair share of the expenses of the administration of the Colony—expenses incidental to the protection of life and property which they enjoy—except either by taxing the produce of their land or by taxing the land itself. Theoretically, no doubt, a land tax commends itself to one's approval in preference to a tax on the produce of land. In the one case, no doubt, there is more encouragement to the improvement and better cultivation of the land than in the other. But in this Island there are a number of serious objections to a land tax, which it is impossible to overlook. In the first place, as nearly every member of the agricultural class has some share or interest in the land that he cultivates, a land tax would be as much a burden to him as a tax on the produce of his land. No doubt if a general land tax were substituted for a tax on the grain, he would pay less on his paddy, but, on the other hand, he would have to pay on his garden and plantation. But there is a still more serious objection than this to the imposition of a land tax, and that is that it would be in the highest degree distasteful to the people of this country. Many years ago a tax on the produce of cocoanut plantations was tried and found to be so odious that it had to be abandoned. That a tax on plantations and gardens would not be less distasteful now than then, was shewn by the various persons to whom questions were put by the Commission. Out of 46 native witnesses, 40 were totally opposed to the imposition of a land tax. Out of 27 European witnesses, 23 were equally opposed to it. My late friend Mr. Alwis went so far as to state that a general land tax could only be collected at the point of the bayonet. I will not go so far as this, but still I firmly believe that if it were attempted to tax the gardens and plantations of natives, the result

would be on every side either evasion or passive resistance. When we remember further that we have no detailed survey of the country, which seems almost necessary for the proper assessment of a land tax; when we consider the infinitesimal sub-divisions to which the property of the natives is subject, and the great variety there is in the productiveness of the soil, so that one field may be worth £100 an acre, whereas another in the same village may not be worth one hundred pence; when, again, we bear in mind that in consequence of these inequalities, which are constantly changing, we should be subject to the vexation and inconvenience of a frequent revision of the assessment, it appears to me that there are such insuperable objections to the scheme that we could not introduce it. If it could be shewn, however, that these taxes upon grain were odious to the people or were inequitable in their incidence, of course every effort should be made to supersede them by some other system, although it might be at the risk of several important interests. But, Sir, these taxes are neither odious nor inequitable. On the contrary, they are acceptable to and willingly acquiesced in by the people, and they have existed from time immemorial. Hear what the late Mr. Alwis says with regard to them (*Ceylon Hansard*, 1876-7, p. 211): "I shall state at once that I am most decidedly of opinion that the people do not think the tax on paddy is objectionable, and that they do not ask for its removal. When, however, I say this, I am by no means prepared to affirm that the tax should be continued at its present rate, or that certain modifications may not be made so as to encourage cultivation and promote agriculture. I shall shew hereafter in what respects the tax may be modified. In itself, I repeat, it is not vexatious or unacceptable to the people." And again, in a later part of his speech (page 211) he proceeded:—"Constituted as we are, it is simply impossible to say that the food taxes at present existing in Ceylon are vexatious in themselves. As to whether they are distasteful, I can only say that I have gone amongst the people, have been in the houses of the poorest amongst them, and have talked to them, but in all my enquiries I have never heard a word against the impost as a food tax." The Commission, which was constituted of a number of gentlemen, probably the very best in the Island to form and express an opinion upon the subject, deliberately came to the following conclusion:—"Historical enquiry shews that a grain tax in some form is of immemorial usage and has always been willingly acquiesced in by the people. The payment of tithes is borne without complaint by the people and is generally felt to be neither oppressive nor unjust." Among the gentlemen who signed this report we have, in addition to the Civil Servants, Mr. Justice Dias, my hon. friend the Tamil representative in this Council, the late Mr. Alwis, Mr. George Wall, the Maha Mudaliyar, and a well-known Kandyan chieftain. Without a dissentient voice, these came to the conclusion that these taxes were neither oppressive nor unjust. Certainly they cannot be considered to be in any way inequitable. The tax on home-grown grain falls upon the Sinhalese villagers, and that upon imported grain upon the inhabitants of towns and upon the floating population, who would otherwise pay nothing at all. It falls upon the Tamil coolies, who flock to this country in such large numbers, and as the cost of employing them must necessarily depend in a great measure on the price of the principal article of their food, through them indirectly it falls upon the European planters and others who employ immigrant coolies. Thus it seems to be a tax which more or less hits all alike. Now, when a tax which has existed from time immemorial is found to be so productive as this and proved to be acceptable to the people and equitable in its incidence, I think he would be a rash counsellor who would advise us to give it up and substitute some other impost in its place, merely in deference to certain economical and political principles which, though true and valuable enough in the country that gave them birth, may be altogether inapplicable to a country like this, where the circumstances of life are so dissimilar. I think I have said enough in justification of the first part and the 5th section of this Bill, which expressly provides for the continuance of these dues. But whatever may be said in favour of the retention of this impost, a great deal may justly be said in condemnation of the mode of collecting it by the farming system. This has been generally condemned: it is condemned by the Commission as susceptible of abuse; and no doubt in certain cases there has been abuse, though I believe the abuse has been exaggerated. Still the system is wrong in principle, and it is not altogether convenient in practice. I am aware that fault has been found with the Commission for not taking oral evidence in detail on this part of the subject, but having at a very early meeting agreed that the mode of collecting taxes by the farming system could not be defended, they thought it not worth while to collect a mass of evidence in support of a foregone conclusion. The Commissioners have recommended that this mode of collecting the grain taxes should be superseded by a system of commutation, and it is with the view of carrying out this recommendation that the present Bill has been framed. The Bill accordingly provides for the substitution in every case of a money payment for the payment in kind, and consequently the abolition of the renting system must follow. The new mode of payment may either assume the form of a commutation based upon the average yield of the previous fourteen years—this commutation to be paid annually or it may take the shape of a fixed payment to be made, not annually, but in those years only when the field in respect of which the tax is due produces a crop. Of course it is the very essence of commutation that the money should be paid every year, whether the land produce anything or not, but it has been thought almost impracticable to enforce a commutation on all the lands in the Island. In the case of many lands, where the supply of water is perennial and the prospects of crop every year are good, commutation is unquestionably the preferable mode of collecting these duties, and no doubt in all these cases the people

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SPEECH OF THE HON. THE QUEEN'S ADVOCATE.

of the low-country will—at least I trust they will—follow the example of the people in the Central Province, and, without it being necessary to put the compulsory machinery of the Ordinance into force at all, will agree with the Government to pay a fair commutation. But with regard to other lands, where the crops are very precarious from want of water, from being liable to inundation or some other cause, and which therefore can only be cultivated at considerable intervals, it would be impossible to compel people to commute the tax. Where these lands are chiefly found the people are poor, and in all probability, as poverty and improvidence generally go together, they will be found to be improvident, and will not when they have a good crop lay up for the year when they will have to pay their commutation without having any crop at all. So, in order to meet cases of this kind, there is a provision that in certain cases instead of a commutation payable every year, a larger sum shall be fixed and shall be paid only in those years in which the field or parcel of land in respect of which the money is due produces a crop. Within certain limits it will be optional with the cultivator to say whether he will pay this annual commutation, which is called in the Bill "grain commutation," or whether he will pay this fixed sum in those years only when he has a crop. This fixed sum is termed in the Bill "grain duty." As soon as the cultivator has exercised his choice, it will remain final until the revision of the scheme, which will take place seven years afterwards. Where during the preceding fourteen years land has produced a crop seven times at least—that is, whenever a fair average can be struck as a basis for commutation—commutation will be compulsory, but in the case of paddy lands only. In all other cases—where the crop is more precarious, or where the field produces some grain other than paddy—it will be optional with the cultivator, whether he will commute or pay this fixed amount in those years only when his land produces a crop. Of course commutation which is paid, whether the land produces a crop or not, is more encouraging to agriculture than a payment which is only made when the land produces a yield. Therefore, as an encouragement to people to commute, in estimating the amount of commutation upon the average of the preceding fourteen years, the Government will make a deduction of 10 per cent. to meet the cost of seed paddy. In some districts and in certain seasons (where "grain duty" is adopted instead of "grain commutation") the crops may be so small that the Government duty would exhaust all the profits of the cultivation; there is a provision that in these cases nothing shall be paid unless the crop is at least three-fold the quantity sown. These two concessions will be found to be very important concessions indeed to the people. In addition to these concessions there is a further provision which it is hoped will prove a great encouragement in bringing new lands into cultivation. If any landowner chooses to bring into cultivation again any land that has not been cultivated during the fourteen years previous to this Ordinance coming into operation, or if he chooses to bring entirely new land into cultivation, he will not be liable to pay any duty whatever to Government until the next grain tax revision takes place seven years after the first. The Ordinance, it will be seen, is divided into two parts. The first part provides the necessary machinery for estimating the amount which is to be payable by way of "grain-commutation" or by way of "grain-duty." It provides for the appointment of Commissioners who will superintend the work of assessment; it sets out the principles upon which they are to proceed, and it also provides for the proper record of the conclusions to which they come. This part of the Ordinance will come into operation on the 1st of May next. When this work is done in any district it will be competent for the Governor to bring Part II. into operation in any particular district or districts, and when that is done the duty to the Government will cease to be payable in kind, and the renting system become a thing of the past. The new system could not very well be introduced into all parts of the Island at once, and so provision is made for its introduction by proclamation into district after district. As soon as it has been introduced the grain tax will be payable under new principles and a new system. The non-payment of commutation money will cease to be any offence. The tax will practically become a charge upon the land. It is to be hoped that all the evils of the present system will then be entirely done away with. It will be seen from the concessions provided for in the Bill that the object of the Government in introducing this measure is to deal fairly and even liberally with the people. It is to be hoped that the measure will be accepted by the people in the same spirit in which it is offered, and that they will co-operate with the officers of the Government in commuting by agreement, as they already do in so many parts of the Island. That, of course, will be by far the most satisfactory way in which the change can be effected. Hon. members will see that this change cannot be introduced without some, perhaps a considerable diminution of revenue, but I firmly believe myself that the greater encouragement this measure will give to agriculture will, in future years, remedy this, and that the revenue will be more than recouped by the greater quantity of land brought under cultivation. I need hardly express my confidence that hon. members will co-operate with the Government in their endeavours to pass a really satisfactory measure. I shall propose to refer the Bill to a strong Sub-Committee, who will consider the subject very fully. I am free to confess that this Bill may be susceptible of improvements in many of its details. The Government will look to the discriminating support of hon. members to carry through the measure. For my part, speaking as a member of the Legislative Council, I would rather have my name associated with a measure that should place the question of our grain taxes upon a really satisfactory footing—upon a footing acceptable to the people and conducive to the interests of agriculture—than with any other measure that could be laid before this Chamber.

GRAIN TAX ORDINANCE, 1878.

MINUTES OF EVIDENCE.

Colombo, 11th November, 1878.

PRESENT:

The Hon. R. CAYLEY,
The Hon. F. R. SAUNDERS,
The Hon. W. D. WRIGHT,
The Hon. Sir M. COOMARA SWAMY,
The Hon. J. VAN LANGENBERG,
The Hon. J. P. OBEYESEKERA,
The Hon. G. B. LETCHMAN.

THE HON. J. DOUGLAS IN THE CHAIR.

D. C. D. DIAS BANDARANAYAKA called in and examined.

GRAIN TAX ORDINANCE.

EVIDENCE.

I HAVE had considerable experience in paddy cultivation both as a landed proprietor and as a Korale Mudaliyar. I have read and considered the provisions of the draft Bill. I am aware that it substitutes payment in money in all cases for payment in kind of the Government share.

Question.—This, you are aware, is effected in two ways, one by means of a grain commutation payable annually, whether crop be produced or not, and based upon the average produce for the last fourteen years subject to a certain deduction; another by means of a grain duty payable only in years in which a crop is produced?—Yes; I understand these are the two leading principles of the Bill. I am also aware that the Bill provides for compulsory money payment every year in all cases where the land has produced a crop more than seven times in the last fourteen years.

It is very seldom that a field produces more than one crop a year in my district; not more than one out of one hundred does so.

Question.—Do you think that as in the Bill, this annual payment should be made compulsory, or only when a crop is yielded?—I think that what the Bill calls grain duty should be optional in all cases.

Question.—Do you think there would be any insuperable difficulty in recovering commutation in years when there is no crop?—I think it would be very difficult.

I would make payment compulsory only when there is a crop. I do not think that paying commutation would encourage cultivators because, as a general rule, a cultivator sows when he can. In my district crops suffer from insects, but we have found a remedy lately in coal tar smoke. I am aware of the concessions this Bill offers to the cultivator. I think those inducements are insufficient to make persons willing to engage in grain commutation.

I think the cultivators would wish to pay the lower annual rate, but when the field yielded nothing they would wish they had chosen to pay grain duty.

The people will prefer to pay only for those years when a crop is yielded, although at the time of making their election they might choose the lowest, *i.e.* the annual rate. It will lead to great hardship if the people have to pay compulsorily every year, whether there be a crop or not. The vast majority of cultivators in my district are poor, but not entirely dependent on paddy cultivation.

I think all owners would wish to have the option of choosing between grain commutation and grain duty. There was grain commutation in my district thirty years ago.

A field must yield five-fold in order to repay cost of cultivation. The interest of seed paddy is fifty per cent. People will sow their fields with a prospect of getting only two-fold even, from custom. They run the chance of getting more than two-fold.

I calculate five-fold will pay thus:—Take one bushel sowing extent. It yields five bushels: one and-a-half bushel goes for seed paddy and interest thereon.

One bushel for feeding neighbours who assist and who reciprocate this payment. For the rest—for watching, fencing, &c., the rest of the produce goes to the cultivator.

Cattle cost nothing; they eat grass. A wet field will have to be ploughed four times, four men for first ploughing, who must be fed twice with one and-a-half measure of rice, some jak fruit, &c. The rice will cost 50 cents. The other things will come out of his own garden, and will cost nothing, their value will be another 12½ cents. The food will thus come to from 60 to 70 cents. Second ploughing will take two men, at half the above cost. The other ploughings will cost the same as the second.

Sowing day: the cultivator will manage this and the reaping also, which takes two days; his labour will be worth 37½ cents a day. No additional assistance will be required to thresh the paddy; the cultivator and his family will do this.

According to Sinhalese calculations it takes eighteen bushels paddy per head to feed an adult a year; children take half this.

An owner can get his field cultivated for one-half share of the produce. The amount a field of one bushel would realize in mortgage depends on the goodness of the field.

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An amunam's sowing extent of paddy land will let for one year for 30 rupees.

A field yielding five-fold only will not let for one-half share, nor even one which yields seven-fold. In my district fields yield from four to twenty-fold.

In some parts straw is very valuable; a bushel's sowing extent will yield half a cartload, worth one rupee. It is not now as valuable as it was. Near the railway straw is still worth something.

Question. - How is Government to ascertain whether a field has produced three-fold?

It will be very difficult for the Government Agent to ascertain this. It is barely possible, but very difficult.

The cultivators are always used to sow the same amount of seed on the same extent of land.

It is difficult in inspecting a crop to guess whether the field will yield more or less than three-fold, but a good guess can be made.

I could say whether a field contained a crop of three-fold on the sowing extent or not. There would be no difficulty in finding out that by inspection, and by the traces it would be easily ascertainable whether the land had been fully sown or not.

Question 6.—There are no means of ascertaining what each field has actually yielded, but it could be determined by oral evidence.

Question 7.—I think fourteen years is a very fair basis for an average of crops.

Question 8.—I think the commutation should be payable before the crop is reaped. If the cultivators are allowed to reap and remove the crop, they will then have no money; all debts are paid by custom on the threshing-floor.

I have explained this Bill to the cultivators; they prefer this measure to renting, except the provision for payment of commutation in years when no crop is yielded. The people would prefer to make the money payment before the crop is reaped. They would prefer paying in money to allowing the crop to be rented. A bushel is worth one rupee; paddy yields 50 per cent. of rice

The witness retired.

III.—CONRAD PETER DIAS BANDARANAYEKE, Mudaliyar of the Governor's Gate and President of the Village Tribunals, Alutkúru Korale South, called in and examined.

I understand the difference between grain duty and grain commutation.

I think compulsory grain commutation practicable, but payment only in years where there is a crop is preferable. I think there would be some difficulty in recovering in years when no crop has yielded.

Question 4.—I think a field ought to yield above ten-fold in order to pay a man for the trouble of cultivating. I think that rate would remunerate him for his trouble, but not necessarily keep him for the year.

I cannot say what are the details of expenditure for ploughing, &c. Fields in my district yield from ten to thirty or forty-fold, but a great many are destroyed by the floods.

A cultivator who gets ten-fold will only cover the expenses of his labour, &c., but will not be able to live from the produce of the same.

I let out my fields at a half share; they yield about twenty-fold. An average-bearing field is given out for one-half share.

I have a field of four amunams, which I have rented out for 75 rupees a year. It yields twenty-five or thirty-fold. An average good field yields thirty-fold. I do not consider a field yielding less than thirty-fold an average good field. There are persons who can estimate the yield of a standing crop very nearly exactly to what it will yield. There is no difficulty in ascertaining what crop a field has yielded during the last fourteen years by oral investigation in the village.

I don't agree with last witness in considering that grain tax should be payable before the crop is cut. I think the payment should be made within three months after the first crop is reaped in the year.

I was a Korale Mudaliyar 15 years. Good fields can be rented out, but not so with the others.

The people know the provisions of this Ordinance. They are desirous of having their fields exempted from payment when the crop fails. I should see that my tenant paid tax before the crop was removed.

I am aware that I am in a minority amongst the headmen as regards my views about paying tax after the reaping of the crop.

IV.—DANDIS DE SILVA GUNARATNA, Mudaliyar of the Rayigam Korale, called in and examined.

I am acquainted with the provisions of the new Ordinance. I think compulsory commutation practicable, but not advisable unless the assessment is fixed very low. I think it is worth while offering commutation to all, as it has not been tried for forty years in my district. The richer persons will probably commute. The majority of cultivators are very poor. I think the people will prefer money commutation if the assessment is very low. Paddy should be assessed at 50 cents or 62½ cents; but during this and last year the price has been 1 rupee and 25 cents, and this year even 1 rupee and 50 cents.

I think that on a fair commutation the Government would gain more than it does by renting, as it would gain the renter's profits.

The election of the cultivator between grain-commutation and grain-duty will depend upon the assessment made by the Commissioner.

The people object—

(1.) That they will have to pay whether a crop is yielded or not.

(2.) That they are too poor to pay.

No objection has been raised by the people to the Commissioners having too much power. The renter is a standing complaint in my district.

There is no use in going to the village to ascertain the actual crop of each field. The Government Agent will be able to say from his records, and by examining well-informed persons connected with the village, but it is not necessary to go to the village. There is a difference between the yield of different fields in the same village. There are fields yielding 40-fold and fields yielding five-fold in certain cases in the same village.

Question 5.—By inspecting a crop it could be ascertained whether it had yielded three-fold

or not; experienced people could find it out by inspection.

I think the time of payment should be fixed after the crop is reaped, say the 15th November; certainly not the 31st March. They must have time to sell the paddy. The majority of cultivators would borrow to pay the tythe if the payment be fixed for the 31st March; if not—that is, if the payment be fixed for a more favourable time—only a minority will have to borrow.

The higher the limit of crop-yielding years, the less objection there will be to grain commutation.

There is a difficulty in the way of having grain duty universal in bad years. Every one would ask for exemption as having a less than three-fold crop.

The witness retired.

IV.—J. A. PERIRA, Maha Mudaliyar, called in and examined.

I have studied this Ordinance, and was one of the Grain Commissioners. I understand the difference between grain commutation and grain duty. Compulsory grain commutation is practicable. I was asked to introduce it into Siyane and Hewagam Korales thirteen years ago. I reported this to Government.

There will be great difficulty in ascertaining whether a land has produced a crop or not. I believe paid commissioners will have to be employed.

I do not think compulsory commutation will be a hardship—people will prefer it to renting. Under the bill as it stands the greater portion of fields will be commuted.

I think commutation of all fertile fields should be compulsory.

A field should yield fifteen-fold to repay cultivation. That would not entirely keep a man and his family. A bushel of rice per head would keep a man's family; that is twenty four bushels paddy a year.

I don't think there will be any difficulty in finding out how much each field will yield, by oral evidence on the spot compared with the Kachcheri Wattoruwas. I give out my fields at a half share. Twenty-five amunnams in Pasdun Korale yield me 1,000 rupees a year; they are very fertile, yielding twenty-five-fold.

I think the payment should fall due just before the crop is cut. I suggest this in the interest of Government more than that of the cultivator.

I was never a Korale Mudaliyar.

The witness withdrew.

NOTE.—On revising the above notes the following addition was made:—

"The probable area of Pasdun Korale fields should be eighty-three and three-quarters amunnams on a rough calculation, and the owita lands five and three-quarters amunnams; total eighty-nine and a-half amunnams in all instead of twenty-five amunnams erroneously stated in my evidence.

Council Chamber, Colombo. 14th November, 1878.

PRESENT:

The Hon. R. CAYLEY, The Hon. W. D. WRIGHT, The Hon. J. P. OBEYESEKERA, The Hon. G. B. LEECHMAN.

THE HON. J. DOUGLAS IN THE CHAIR.

J. F. DICKSON, Government Agent, North-Central Province, called in and examined.

I have studied this Ordinance. I have noted the distinction between the artificial terms "grain commutation" and "grain duty" used therein.

I think compulsory commutation quite practicable in the case of fields yielding seven crops in fourteen years.

I think this a very fair point at which to draw the line between compulsory and voluntary commutation. I could not suggest a better.

Question. Do you think any great objection would be made to making it compulsory with this limit generally?—I think that, as in all changes affecting taxation with an Eastern people, there will be some objection at first, but after the system has been in operation a few years it will be acceptable.

It only requires to be known and understood to be accepted, but until it is practically known I think that all kinds of objections will be raised.

I have hitherto been speaking of paddy fields only.

A grain commutation to be compulsory on all fields cultivated, on an average, seven years out of fourteen would as a rule embrace the whole of the fields in my province. Nearly every field is cultivated as often as that.

A drought of two successive years causing the failure of four crops in succession is of rare occurrence, and happens only about once in a third of a century.

I think the soundest principle to adopt, as a rule, would be compulsory grain commutation in all cases of paddy fields. But when the crop is so precarious that not seven crops are reaped in fourteen years, I think it reasonable that the owner should be given the option of paying only for crops reaped.

My province is one of the poorest parts of the island. The people have very little money, but I anticipate no difficulty in enforcing a money payment; perhaps the best information I can give on this point is that commutation was almost universal in my province up to 1874, and that there are no arrears—not one penny is outstanding.

I may also mention that as a rule there is no difficulty in recovering Police Court fines without imprisonment and without sale of property.

During the time the commutation existed there were no roads in my district—only two cart tracks across it. There is always a market for paddy in every part of it. Now roads—

GRAIN TAX ORDINANCE.

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communal cart roads, made under the Village Councils' Ordinance—exist nearly everywhere.

When people are certain that taxes must be paid by a fixed day, they will pay them punctually. But the moment a doubt arises, there will be delay and difficulty in collecting the taxes.

Question.—Do you not think it will be more acceptable to the people to have a choice between the two?—I think in dealing with ignorant people like these, that they should be told what to do. I don't ask a child whether he will go to bed or not; I tell him to go.

I do not think it will be practicable to carry out the provisions of this Bill with regard to the registration of land other than that ordinarily cultivated with paddy.

I may divide lands used for dry cultivation into two classes: 1, those regularly cultivated; 2 those cultivated only at intervals of years.

With the former there is comparatively little difficulty. As regards the latter, there is no way of defining a parcel of land used for chena cultivation; it has no proper limits and cannot without a survey be properly defined. The people themselves could scarcely define them, and certainly could not give even their approximate extent.

We have no *pattu* land in the North-Central Province, but we have lands which resemble them somewhat—*i. e.*, *potanas* which are alluvial banks of rivers cultivated by damming up the river with tolerable regularity, like paddy fields.

Question.—Assuming that registration of high land be abandoned, how would you tax them?

I would suggest that the grain commissioners should ascertain the ordinary dry grain yield from any district, or part of a district, and what are the kinds of grain ordinarily cultivated there, what would be the Government share, and that they should after ascertaining the revenue which that share has yielded during the past few years determine the price per seer or *kurum* to be paid for fine grain cultivation; for example, say ten or thirty cents per seer.

The headman would then report in case of cultivation as he now does, that a chena of so many seers' extent had been cultivated; then the tax at the fixed rate would be assessed on the extent cultivated and recovered before the crop was removed.

I would determine the extent on the headman's report as one does now. The check of the rent sale would of course be absent. I would charge a certain fixed rate upon the extent sown.

In my province the Korala is the taxing headman who generally does the estimating work.

I can see no difficulty in making commutation compulsory in places where fine grain is grown as regularly on a parcel of land as paddy is in a field.

In my province fields do not generally yield more than one crop a year.

I think compulsory commutation would not involve any practical hardship to the people. I say this because the Bill, as it stands, by its limits precludes all possible risk of hardship.

With reference to dry grain, I think it would be possible to fix a price for each kind of grain per bushel, and estimate so many bushels on the extent sown. It might be done in that way, but I should prefer to take the average yield of dry grain as a whole, and fix the value of the Government share so ascertained as the grain duty on the extent sown. This would reduce the inspection by Government officers to a minimum.

I think that there will be no difficulty in ascertaining whether a paddy field contains three-fold or not; inspecting a standing crop it is a matter which is done daily by practical agriculturalists.

Question.—What is the best time for making commutation money payable?—The 1st January I should say, or as soon after as possible; and the payment being fixed for a particular date there should be a heavy penalty for delay in paying, and in default the land should be serviceable and saleable on an order from the Kachcheri.

If the desire is to give a long time in which payment may be made, I would fix the day of payment for some date before the crop is usually reaped.

In my province, Nuwarakalawiya gives a Maha harvest and Tamankadiwa a Yala harvest. I would not make my payment dependent on the date of reaping, as the ordinary villager does not sell part of his paddy crop to get money wherewith to pay the tax. He pays it irrespective of that crop, and does not sell paddy. I certainly think it would be more reasonable and more kind to the people to have a fixed early day for paying. The people would then know they must pay and would not procrastinate.

I think in the case of the Central Province and of other districts in which the payment of tythe is generally made from proceeds of sale of coffee, I would not delay the payable date till coffee was brought in. If it must be paid from coffee proceeds, it must be paid from the previous year's crop.

Question.—Do your people prefer renting or commutation.

At first the change from commutation to renting in 1874 was a great boon to them, as we had two very bad years, but this year the crop is very good, and they are thinking they had better have commuted. It is very difficult to say what the opinion is, but I think this is it. The tythe realized a great sum this year.

The renter is generally paid in money by villagers. They prefer to pay money to paying paddy.

I was revenue officer in Kegalla; both renting and commutation were in force there.

I do not say that people who now refuse to commute would consent to commute under the inducements offered by the Ordinance. I don't think they would; but I think if they were compelled to commute, and had some year's practical experience of it, they would appreciate it.

The witness withdrew.

Council Chamber, Colombo, 18th November, 1878.

PRESENT:

Hon. W. D. WRIGHT. | Hon. Sir M. COOMARA SWAMY, Kt.

Hon. F. R. SAUNDERS IN THE CHAIR.

JONATHAN SILVA, Proctor of the Supreme Court, Matara, called in and examined.

I have studied this Ordinance, and I have been requested by a number of native proprietors to represent the hardships which they apprehend they will undergo under the new Ordinance. I have given the Assistant Agent a statement of these representations.

Question 1.—In my opinion compulsory commutation is not practicable.

(*a.*) Because the majority of the people of the district of Matara is unable to make *money* payments, as evidenced by the numerous sales that have been held for default of payment of water-rate, which is leviable whether there is a yield or not, and the readiness with which the cultivators choose to pay double in kind for water-rate—*i.e.*, a bushel of paddy, worth from one rupee and fifty cents to two rupees per an acre, rather than pay a rupee in money.

(*b.*) The levying of a compulsory money rate will prove a special hardship to those of the poorer classes who own only a single holding of, say, a couple of kurunis' extent. To meet the demands of Government—always a dangerous creditor—recourse will be had to the village usurer, and the consequent loss to the cultivator of the only property owned by him. As it is, in consequence of the successive failure of harvests during the past years he is already deeply in debt.

(*c.*) The objection to pay in money, when there is no yield, is raised not only by the poorer classes but by the richer, for the simple reason that there is a possibility of the absolute loss of the field to the proprietor by any unwitting default in payment of the rate on an appointed day and the consequent enforcement by the Crown of the provisions of the Ordinance sought to be brought into operation for default (clause 17 and downwards.) This danger is rendered impossible by the provisions of No. 14 of 1840.

(*d.*) Under this head I would also mention that the last three years' experience of the almost complete failure of crop in our district, not excepting the fields of Attudawa and Narahgala, considered the best yielding fields in the whole of the Southern Province, has proved that it is inexpedient to compulsorily commute in the case of fields "which have produced a crop seven times at least in the last fourteen years." The climatic changes are so uncertain and frequent that a repetition of utter destitution to the peasantry, who are already deeply involved, is not improbable.

I am a landowner myself—not an extensive proprietor. I should object to commute for my land.

Question 2.—Yes. It is certainly desirable to give the option to the proprietors and cultivators of lands *in all cases*; and payments should be upon an annual assessment of the actual yield. That this opinion is shared not only by the villagers but even by all the chiefs of Pattus and Korales, most of them extensive land proprietors, was shewn at a large meeting held in Matara Kachcheri on or about the 11th instant, to consider the provisions of this Ordinance, when they all with one voice agreed to these views, which I, in their presence, and on their behalf, gave expression to in addressing the Assistant Government Agent.

Question 3.—If this be a question bearing upon the 26th clause of the Ordinance, and if the Government be determined to carry the Bill through, revision should be made earlier. I think three years would be a fair term. My reason is that the hardship would be less. We have now had three years of failure and are already in debt.

Question 4.—Six or seven-fold.

N.B.—I put down the expense of the three tillings which will require twenty men at least for tilling an amunam's extent of land at each tilling, and eight or six men a day to sow, at rupees thirty ... ... Rs. 30

Seed corn and interest for sowing one amunam, six bags 15

Walahan or amount paid for reaping one amunam 10

Rs. 55

This makes fifty-five rupees. The value of an amunam of paddy at harvest time may be taken at nine rupees. Nines in fifty-five, six times and one over. It will be observed that there is no charge here for putting up 1, *wéllas;* 2, *amunas;* and 3, *nigaras*, *i.e.*, the *first*, embankments to conduct water; *second*, to block up a river or a canal; *third*, to separate beds in a field.

Question 5.—An approximate estimate can always be made as to whether or not the yield of a field is three-fold of the quantity sown by experienced cultivators on inspection of the field at harvest time.

Question 6.—By examining the wattorus, and taking the evidence of old cultivators and persons living near a given field.

Part 2.—Depending as this does on the fertility of the soil, the best method of estimating the probable value of the produce of a field is by inspection of the standing crop.

Question 7.—The best time to fix upon for the payment of commutation is soon after the reaping and threshing of each harvest is over, and the crop garnered—say in two instalments payable March and September.

If there is to be a proper yield, a land can only be cultivated once, but in the irrigation districts, under tanks, &c., there are two crops—the last being *bála-wi* cultivation.

An amunam sowing extent leases in various ways: sometimes, for a share which may be three quarters or half, or one-quarter. The cultivators are liable to be changed at the pleasure of the landlord, except in the case of *ande* fields. I generally take my owners share in paddy to my house.

A land yielding only three-fold will not lease at all. A field ought to yield seven.

I have not considered the question of dry grain cultivation.

The witness withdrew.

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A. B. WIKRAMARATNE, Atapattu Mudaliyar of Matara Kachcheri, called in and examined.

Question 1.—I have read the Grain Ordinance. I do not think compulsory commutation is practicable in case of fields yielding crops only seven times in fourteen years. I think this would be hard on poor people. I think the people should be allowed an option between grain commutation and grain duty in all cases.

Question 4.—Six or seven-fold will pay the mere cost of cultivation without leaving any share to the owner; a yield of ten-fold will give the owner something. The average yield in Matara district would be ten or fifteen-fold.

Question 5.—The yield of a field can be ascertained by personal inspection. I could say whether the yield would be three or four-fold.

Question 6.—By inspecting wattoruwas; there is no other way. The wattoruwas give the sowing extent and gross produce and estimated yield. I think they are pretty correct. Since of late we have taken the yield as ten-fold.

Question. What is the best method of estimating the probable value of the produce of any one field cultivated in the ordinary way?

To do this the locality of the field, the fertility of the soil and the wattoruwas must all be considered.

Question 7.—I think payment should be made when crops are removed. I think it better to recover the tythe after reaping.

In Matara the landlord receives as his share, one-half, one-third or two-thirds of the produce according to the fertility of the soil.

The value of an amunam extent of paddy land will be from 300 rupees to 500 rupees on an average. We never lease fields for money, we lease our share of the standing crops, and sometimes for cash. An amunam's extent yields 50 rupees to 80 rupees. I rent out my share to rich people. When I do not rent out my share I receive it in kind.

The provisions of this Ordinance are generally known.

The people do not seem to like it at all. As a rule, a Government renter receives a little more than the tythe. A kurani measure or two more.

I have no experience of commutation. There never was any grain commutation in Matara district.

I have not given any thought to the question of dry grain commutation.

The witness withdrew.

Council Chamber, Colombo, 21st November, 1878.

PRESENT:

Hon. R. CAYLEY.
Hon. F. R. SAUNDERS.
Hon. W. D. WRIGHT.
Hon. J. VANLANGENBERG.
Hon. J. P. OBEYESEKARA.
Hon. G. B. LEECHMAN.

Hon. J. DOUGLAS IN THE CHAIR.

S. JAYETILLEKE, Kachcheri Mudaliyar of Kurunegala, called in and examined.

I have considered this Ordinance. I understand the two modes proposed for the collection of grain tythes.

Question 1.—It is practicable to enforce compulsory commutation if done in an equitable manner; that is if no interference be practised with the cultivator, and he be made to feel that only a fair amount is being collected from him.

By interference I mean asking the cultivator how much crop he has reaped. The cultivator has a superstitious notion that the yield of his field ought to be revealed to no one—not even his wife. He has an idea that if he reveals this his crops will diminish. I am sure he would not tell the amount. The yield must be ascertained from examining neighbours.

Question 6.—It will be quite impossible to ascertain the actual yield of each field for the last fourteen years. The number of cultivations of each field would be found by great difficulty; the wattoruwas are destroyed each year, and only the village average preserved.

The information might be gained perhaps by asking villagers who would speak from memory.

Formerly grain commutation existed in part of Seven Korales.—Nine pattus were commuted, and in 1862 six pattus were assessed for tythe. The assessment in two or three of these was verified by the Government Agent.

This assessment was based on the old twenty years' commutation, and the tythe calculated at three bushels per amunam sowing extent. The people objected to pay the money rate, which was fixed at one rupee and twenty-five cents per bushel.

For commutation purposes I would divide the fields in Seven Korales into two classes.

The first class would include territorially the Wo-uda Wili Hatpattu and Kátugampola Hatpattu only. I would assess these divisions at three bushels tythe per amunam sowing extent (five bushels).

The second class I would assess at half the rate given above.

The objection raised to the 1862 assessment was two-fold: first, the high rate fixed for paddy, (the fact that payment in money instead of in kind was demanded was not a ground of objection. Second, the fact that for sometime previously the villagers had had no crop.

The present price of paddy is

In Kurunegala market ...	1	25
In market, elsewhere ...	1	0
In the threshing floor ...	0	75

I give no price for the Wanni divisions, as the people there will not sell paddy at all.

The assessment I propose above I would introduce gradually.

No fine grain other than hill paddy is taxable in the North-Western Province.

Question 4.—I cannot say how many fold of yield would repay the cost of cultivation. Even the most fertile fields give only ten or twelve fold; elsewhere the fields run down to five-fold and three-fold.

An experienced person can at once tell the amount of standing crop—whether it is three-fold or not.

Mr. Mitford's 1862 assessment was not in classes like the one I advocate. It was based on the old commutation, and taxed at the average of that commutation—assessors went round and assessed each field.

In the North-Western Province some of the fields produce two crops a year, that is, in Katugampola and We-uda Hatpattus; the other divisions give only one crop a year. Some indeed give only a yala harvest, and are planted with no other paddy than the inferior kind Béla-wi.

Question 7.—I would make the payment universally at the Sinhalese new year (April 11th), that would be after the maha crop. My reason is that otherwise the villagers would not know on what date to pay, as they are very ignorant of dates. I would make payment due on or before the New Year.

In Demala Hatpattu fields yield crops only once in six or seven years—they would not be commuted.

If easy terms are offered, I do not think there will be any difficulty in obtaining money payment. I do not think there would be any difficulty even in dry season, as the villagers have other means of obtaining money besides the proceeds of sale of paddy, and after a drought the fields give more crop and so recoup the loss.

Question 5.—To ascertain whether each field has yielded more or less than three-fold, more assessors would be required.

Question 2.—I think that in the Vanni Hatpattu grain duty should be permitted.

Question 3.—I consider the limit of seven cultivations in 14 years is a fair one, but it will be difficult to determine what fields have been cultivated during the past fourteen years. I think ten cultivations out of fourteen years is a fairer limit for compulsory commutation than seven cultivations.

In three out of the Seven Korales the average crop is only about three-fold. In the others more crop is yielded. The old commutation registers were destroyed in the troubles of 1848; only *olu* registers survived.

The Maha harvest is reaped at the end of March; fents are sold before the end of that month. Yala harvest is cut in June, July and August. The Yala crop is generally an early ripening kind of paddy.

The witness withdrew.

HALPE RATKMAHATMAYA, of Katugampola Hatpattu, called in and examined.

I have read the abstract of this Bill published in Sinhalese.

I understand that the intention is to levy yearly a money commutation on fertile fields and an assessment payable on the crop of unfertile fields.

Question 1.—The fertile fields can be cultivated for one crop at least, and if easy terms are offered there will be no difficulty in enforcing commutation.

Question 6.—If commissioners are sent, they will be able to ascertain by making enquiries and seeing the fields.

Question 3.—The question whether a land is fertile or not should be determined by general enquiry, and not by the number of cultivations in fourteen years.

Question 3.—I think a field which had produced ten crops in fourteen years a first-class field. There would be no difficulty in commuting such a one.

The fact that the field was a fertile one could be ascertained by enquiry, from wattoruwas, and headmen, if no wattoruwas exist. Oral evidence should be taken from headmen and others.

In my district the crop is divided into four portions which are distributed amongst the cultivator, the watcher, the sower and the owner.

Question 4.—If the amunam sown yields sixty bushels, it will pay; even if half of this is yielded, it will pay.

Question 5.—From personal inspection it is possible to ascertain whether a field will yield three fold or not.

The previous yield in any field can be approximately determined by oral evidence.

Question 7.—The Government tythe should be collected in January, I think. People are now beginning to know both the English and the Sinhalese new year, so that some time should be selected between the two.

I do not think it would cause great difficulty to collect in money. The villagers can get money in various ways, and near the Railway they sell straw.

The witness withdrew.

J. D. S. WIJESINHA, Mudaliyar of the Governor's Gate and Atapattu Mudaliyar of Galle Kachcheri, called and examined.

I have read this Ordinance. Payment of tythe in money is practicable, but people prefer paying in kind—the water rate is paid in kind. I think money payment better than the renting system, but the people would prefer *amani* payment to money payment.

Question.—Do you think the provision for annual payment on all fertile fields fair?

My definition of a fertile field is one giving fourteen crops in fourteen years. My own fields give two crops a year. If one crop fails, the people sow again that year for the second harvest.

I think that on all fields other than those which are fertile, grain duty should be recovered.

Question 6.—Formerly the wattoruwa gave me estimated produce of each field in Matara, but from 1869, they have been defective in this particular.

No difficulty exists in Matara in ascertaining how often a field has been cultivated during the past fourteen years.

Question 7.—The cultivators can get money if the money payment is made to take place after each harvest; there should be two times for payments in the year, and the villager should be allowed to choose at which he would pay his duty.

The fields in Matara belong mostly to persons other than the actual cultivators. The owners

GRAIN TAX ORDINANCE.

EVIDENCE.

receive ½, ⅓ or ¼ of the nett crop. Very seldom money leases of fields are made, but proprietors rent out their standing crops. I have known fields give eighteen amunams to the owner for one amunam sowing extent. Fields in the village I mean give ten or twelve-fold all round.

Usually when I give out for cultivation a field of one amunam (six bushels) extent I receive three or four bushels for my half share. All the rest goes to the cultivator. Paddy is worth a rupee a bushel on the threshing-floor.

The witness withdrew.

JAMES KARUNARATNE, Proctor, Galle, called in and examined.

I am a land-owner in Galle District. I have not yet had time to read the new Grain Ordinance.

I do not think it will benefit poor people to commute the tythe. I think that they should pay grain duty in kind.

I believe the renting system even would be preferred by the poor to paying money. I admit that renters do practise extortion, but this would not be so bad as a payment in money.

I consider a field giving a crop ten or twelve times in fourteen years or more often is a fertile one. Fields for the most part do not give two harvests a year.

We receive one-third of the nett yield from our fields. We receive our share in kind; we seldom receive more than one amunam for each amunam's extent.

I do not think the renters make large profits. The headmen when they buy rents, as they generally do, make a profit, but not outsiders, who when they buy sometimes make no profit. Sometimes they pay ten rupees and get only two bushels.

The best times for paying duty are the end of September and the end of March.

The witness withdrew.

Council Chamber, Colombo, 22nd November, 1878.

PRESENT:

Hon. R. CAYLEY, Hon. F. R. SAUNDERS, Hon. W. D. WRIGHT, Hon. G. B. LEECHMAN,

Hon. J. DOUGLAS IN THE CHAIR.

Hon. F. B. TEMPLER examined.

1. Compulsory commutation is I think practicable, but not desirable. The renting system should not be continued. Payment in money is as easy as payment in kind, and it is preferable that a periodical tax should be made, and not an annual one. An annual payment would cause nearly as much trouble in collecting as the periodical payment, since the same means would have to be adopted for both. It is impossible to arrive at an altogether fair commutation. In most cases it should be made to apply to fields producing a crop ten times in the last fourteen years. In the Central Province no difficulty is experienced in recovering commutation. Crops are generally certain, and in many cases (say one-fourth) occur twice in the year. Commutation is paid readily and cheerfully, and when a man has commuted for a long time, he brings himself to consider commutation as part of his regular annual expenditure. In Kandy commutation previous to the year 1864 was at 1*s.* 4*d.*

2. I am inclined to think that an option between grain commutation and grain tax should in all cases be allowed.

3. Seven years is too short a limit to fix. If commutation is to be made compulsory, ten out of fourteen years is, I consider, a fair limit. In the Central Province no difficulty with this limit is encountered in recovering commutation.

4. I consider that three-fold is a fair limit to fix as a minimum yield which will cover the cost of raising the crop from the time of first ploughing to the time of removing the paddy from the threshing-floor. In a three-fold yield little or no profit accrues to the cultivator. Yet in the Central Province fields yielding three-fold are, as a rule, cultivated.

5. There is no difficulty in ascertaining whether or not a crop is of three-fold yield. Disputes between headmen and people on this subject are very rare.

6. Whether commutation is to be made compulsory or not, it is necessary to ascertain the average value of crops during the last fourteen years. Little difficulty is experienced in doing this, though it can of course only be done approximately. The difference should be taken between the average price of paddy during the last fourteen years and the present price. Paddy in villages of the Central Province is bought at 3*s.* or 3*s.* 6*d.* per bushel, which is less than the actual value.

7. In the Central Province commutation is supposed to be payable in March, which is the time of reaping the first crop; but in reality the collection goes on all through the year. Even among the poorest classes criminal law has seldom to be put in force to recover commutation. With regard to the periodical tax the early part of the year would be the fairest time for collection. The time should be fixed, and the cultivator should be allowed, if he chooses, to remove his crop from the threshing-floor before payment. The payment of this tax at the beginning of the year would not, I think, clash with that of the road tax. Recoveries would probably go on, as in commutation, all through the year.

With regard to the Commissioner to be appointed, he should be of high standing, but junior to the Government Agent; it would be better if the Government Agent could perform the duties, but I do not see how he could find time for it.

An appeal should certainly be allowed from the Commissioner to the Government Agent by the cultivator, and in cases where the Government Agent has reason to believe that the Commissioner has made an erroneous appraisement the matter should be referred by the Government Agent to His Excellency the Governor and Executive Council.

W. W. Hume, Esq., Government Agent, Southern Province, examined.

1. Compulsory commutation in fairly fertile fields is practicable. I have had experience on the subject at Badulla and Batticaloa. In the former no difficulty was encountered in recovering commutation, and the same I found to be the case at Batticaloa. Very few cases occurred of property having to be sold in order to pay arrears.

In the Southern Province I do not think that money for the payment of fines imposed by the Police and other Courts is less procurable than elsewhere. With regard to the road tax, it is only among the poorest classes that defaulters in payment are found. Land owners are always in a position to pay it.

2. In the Southern Province the majority of the people desire that they should in all cases be allowed a choice between grain commutation and grain duty, and I myself think that this choice should be granted. I do not think there would be any difficulty in collecting the grain duty. In Matara the people prefer to pay in kind, and I think that at first they would find great difficulty in paying in money, as they have been totally unaccustomed to do so. Also, money being scarce among the poorer classes, they would have to borrow at heavy interest in order to make payment. The water-rate in the Southern Province is, except in the Galle district, where the collection is very small, paid in kind; the people object to money payment, as money is not easily procurable.

In order to arrive at a fair estimate of the value of paddy an estimate should be taken somewhat below the usual market rate; the price of paddy this year is very high.

L. F. Lee, Esq., examined.

I was at Kegalla from September, 1869, to October, 1870, and again from April, 1871, to September, 1872. Commutation began there 1st January, 1869. I believe that people refused to commute on expiration of that term of commutation. I am certain that they would not recommute at the same price, viz., 2*s.* 6*d.* per bushel, because they complained of having to pay at that price during the latter part of that term. Afterwards they did commute at a lower price—at 5 rupees an amunam,* which is 1 rupee per bushel, making a fall of 20 per cent. In Four Korales there is always one crop every year and very little failure is experienced.

I think there will be no difficulty in collecting the paddy tax in money, provided that a bushel of paddy is rated at the average market rate. A great deal also depends upon what time is fixed upon for collection. People either have money or the means of procuring it at the proper seasons. When I speak of money I refer to small sums.

The commutation rate which ended in 1848 was very small indeed. Somewhere about 8*d.* a bushel. A recommutation was made in 1869. On the opening of the Kandy railway paddy fell 43 per cent. The high rate of commutation was paid as late as September, 1872. I am disposed to think that if the rate of commutation be satisfactory, if the system be thoroughly explained to the people, the people would be quite ready to pay commutation. With regard to question 1, I am of opinion that commutation is practicable in cases where a field produces a three-fold yield. If the people be made to understand the system, the payment of grain commutation, I should say, might be made compulsory.

I do not think that the option between grain commutation and grain tax should be given in all cases.† In the case of fertile fields, even where no crop is produced, I think there will be no difficulty in collecting the money. If commutation were compulsory it would doubtless add a great incentive to grain agriculture. Speaking of commutation, I presume that an average will be taken of the years of cultivation and non-cultivation, and that the payment of the tax due for the years of cultivation will be distributed over the whole term. I am not in a position to express the opinion that the people are generally improvident.

3. I think that 7 years is a fair limit to fix.

7. The best time of year to make money payable is decidedly the latter part of the year. At Kegalla May was the time fixed, but little or none came in before July, when payments generally were begun to be made. In September 1872, at the end of three years I had only £100 still in arrear. In the Southern Province cultivators incur expenses in cultivation in the early part of the year, and later on they make up for it by occupying their time in working in plumbago, etc. Personally when at Kegalla, if all the payments were not made up to a certain date, I put the Ordinance into force. During my first year I had to hold sales of property pretty frequently, but in the second year there were much fewer cases of this sort, and in the third year scarcely any. Of course the people grumbled at their property being sold, but I am of opinion that it is a good policy to hold these sales, as they have the effect of placing small holdings of land in the hands of those who have the means of managing them in a proper manner. With regard to the proposed Ordinance I have the following alterations to suggest:—

Exceptional circumstances would increase the produce, but not the value. For instance, a new tank would increase the produce but not the value of the bushel of grain. The present assessing system could not be improved upon except as regards personal supervision by the Commissioner.

Clause 11.—I think that the name of the proprietor of any land should be inserted in the register; if no name is given, the collection of the tax would be almost impracticable. The draft Ordinance of 1856 had the word "proprietor."

Clause 16.—This clause contains no provision throwing on the proprietor of a field the duty of having it registered. It would, I think, be difficult for the cultivator to know whether a field had been registered or not.

Clause 17.—In this clause the liability of a person's property only extends within the Province of the Government Agent in which that property lies. If the same person possessed property in another province, that property would still be secure to him.

Clause 9, *4th line.*—I object to the term "value" both here and in the preceding clause, as I think that the people would not understand the method of assessment. The words of this and the preceding clause should be altered so as to give the Commissioners the power of assessing the produce, and fixing the value thereon.

* Witness uncertain whether five or six bushels equal to one amunam.

† If extended option were granted a continual watch would have to be kept to ascertain which fields were cultivated and which were not.

GRAIN TAX ORDINANCE.

EVIDENCE.

Council Chamber, Colombo, 5th December, 1878.

PRESENT:

Hon. R. CAYLEY.
Hon. F. R. SAUNDERS.
Hon. W. D. WRIGHT.
Hon. G. B. LEECHMAN.
Hon. Sir M. COOMARA SWAMY.
Hon. J. VANLANGENBERG.
Hon. J. P. OBEYESEKERA.

THE HON. J. DOUGLAS IN THE CHAIR.

The President of the Village Tribunal, Batticaloa, examined.

1. Compulsory commutation is not practicable in all cases.

2. I consider that an option between grain commutation and grain tax should in all cases be allowed to cultivators. The best way of satisfying the people would be to allow the cultivator a free choice between paying commutation annually or only in those years in which crops are produced. At Batticaloa, there are three crop seasons, the first of which is sown in September or October, and reaped in March or April. The second is sown in February and March, and reaped in June. The sowing time of the third crop is July, and the reaping takes place in October. These crops are dependent on the level of the land, the first crop being produced on the highest ground. During my experience I have not known many cases of a field producing two crops the same year.

3. Seven years is by no means a fair limit to fix, and I consider that ten or even fourteen years should be fixed as the limit.

4. Speaking generally, I think that a five-fold yield would cover all the actual expenses of cultivation—such as sowing, reaping, threshing, ploughing, fencing, watching, &c., as well as the maintenance of the cultivator during the time employed in cultivation. When I speak of a five-fold yield, I do not include the seed paddy, but the people are anxious that this deduction should be made in all cases of commutation.

5. This question is not an easy one to answer, though I think I am right in saying that in order to ascertain whether or not the yield of a field is three-fold of the quantity sown, a proper assessment should be made before the reaping of the crop, and land-owners should be compelled to make a declaration of the actual yield of crop; any fraudulent declaration should be severely punished. It should also be clearly pointed out whether or not a three-fold yield includes the seed paddy.

Of course, it greatly depends on the honesty of the assessor, whether the assessments made are fair or otherwise. At present, a Government Agent can be appointed a commissioner, but considering the fact that the Government Agent receives appeals from the decision of the commissioner, I think that the two offices should in no case be combined in the same person. In the Eastern Province there would, I am sure, be no difficulty in obtaining honest assessors. There is no doubt that no small amount of oppression is carried on under the old method of assessment, and I will give, by way of illustration, one case that has come before me. An assessor was charged of receiving a bribe of three rupees for under-valuing a certain land, and was fined 50 rupees—a whole month's salary—and dismissed. If no bribe is offered, assessors often purposely make an over-valuation. The reason why complaints have not been made to the Government Agent of such oppression lies in the fact that very few persons could be found bold enough to do so.

6. With regard to this question I do not know a single instance of a man keeping an account of the actual yields of his land, even during the last five years, and therefore I think the only means of ascertaining the actual crops of any one field, and their actual value for the last fourteen years, would be by taking oral evidence on the spot. The yield of each field is of course known approximately: indeed, the amount for which the land is leased is sufficient to show approximately what the yield would be. I have had experience in cultivation for more than thirty years during which time I have not known more than five years of best crop. In Batticaloa a yield of ten or twelve-fold is reckoned a best crop. A yield of six or seven-fold would be a middling crop, and two or three-fold a bad crop. During those thirty or more years, I have known about twenty-five years of middling crop, and at least four or five of bad crop. It has happened two or three times that the crops were a total failure, the produce being less than the actual seed sown.

In Batticaloa the whole extent of land is not cultivated, and, consequently, there is a good deal of waste land. Such land, I consider, should be altogether exempt from taxation.

7. The end of the year is decidedly the best time to fix for the payment of commutation. In November and December, the price of paddy rises 30 per cent., while in May and June the price is low. In commutation districts, November is at present the time fixed for payment, while the road commutation is levied in March and April. Government Agents have been in the habit of altering, from time to time, the date fixed for payment. There would be no difficulty in substituting money payments for payments in kind: the people would prefer it to the present renting system, nor would any great difficulty be experienced in collecting the money. In the Batticaloa district the people have been commuting since 1841. The amount of paddy land in the district is, I should say, between 60,000 and 70,000 acres, and about two-thirds of this land commute. Cases of default in payment are more frequent now than they used to be twenty years ago. If the time fixed for payment were to be after the reaping of the crop, I do not think that people would have to borrow in order to be able to pay. Some people become defaulters from mere neglect and carelessness, and not from inability to pay. 25 per cent. discount was allowed on prompt payments twenty years ago.

With regard to the new Bill I am sure that, so far as they know it, the people prefer the new Bill to the old renting system. Their knowledge on the subject has been gathered from the translation of the Queen's Advocate's speech which has lately reached them.

In Batticaloa fine grain is grown almost exclusively on chena land, little of none being grown on private land, and that little is subject to duty with the exception of peas, &c. Indian corn and kurukkan pay one-tenth to Government. When a field is leased, the owner's

share depends on the nature of the soil. Cases not unfrequently occur of a lease being made for that share. In Batticaloa about two and a-half or three acres go to one amunam.

The price of paddy during the last two years has fluctuated a good deal. Until the port is closed prices rise.

On my own land a paddy field of forty acres yields me, as owner, seventy-five amunams a year, which includes Government Tithes: consequently, my real share, as owner, amounts to sixty amunams. This land I am speaking of lies in the irrigation district and is considered first-class land.

Besides the seventy-five amunams which accrue to the owner in many cases the cultivator also obtains an equal amount, but this only during the best crop seasons.

WRITTEN ANSWERS by J. CROWTHER, Esq., of Batticaloa.

Question 1.—If it is practicable to recover in kind one-tenth of the produce of paddy fields, it would be advantageous to both Government and the cultivators. Between commutation and renting, cultivators would rather choose commutation as the lesser of the two evils. If the fields produced a crop more than five-fold seven times at least in the last fourteen years, compulsory commutation is practicable in the case of such fields.

Question 2.—To give option to the cultivators in all cases between grain commutation and grain tax would promote the interest of the cultivators and increase the progress of cultivation.

Question 3.—Seven years is a fair period to fix for commutation.

Question 4.—Five-fold of yield will cover the cost of raising the crop from the time of the first ploughing to the time of removing the paddy, including commutation. See statement appended.

Question 5.—It is impossible to ascertain the approximate yield of a field. The circumstances that affect the produce are indeed so many and various, that no just or equitable assessment has ever been made of any one field that I know of. I would suggest that a small portion of each field be reaped and threshed to find out the yield of the whole field or fields which have produced a similar crop in the same plain. This trial should be repeated two or three years.

Question 6.—I am unable to suggest a correct method of ascertaining the actual crop of any one field for the last fourteen years. The commutation and rent sale books are very misleading, and, from my experience in court I have found that cultivators when sued for rent run down the nature of the soil of their fields and the quantity produced or produceable. On the contrary, when such cultivators claim the crops from those who have taken unlawful possession of them, they swear that their lands are the best and the yield as many-fold. The assessment made by the headmen and others from time to time either for rent or commutation is very erroneous and baseless, and never comes near the mark. The men appointed as assessors are not owners of paddy land, nor have they any experience in cultivation.

The rich and respectable owners of lands in this district, upon whose veracity one can rely, give out their lands on lease, and have no means of knowing the actual produce of their fields.

The assessment is generally made sometimes by inspecting the plants in their infancy, sometimes when they are in ear, and sometimes by inspecting the stubble long after the ears have been gathered: a more absurd mode cannot be imagined.

Question 7.—The time for payment of commutation to be fixed between August and October when the paddy crops of the "Munmari" and "Kalawellam" are threshed and ready for sale.

Whatever advantages and facilities the present Bill is supposed to offer for the cultivators, unless the assessment and calculations for grain commutation or duty be based upon correct data and reliable information, it would be a curse instead of a blessing to the hitherto oppressed cultivators. You may go from one end of the district to the other, and you will not find a single cultivator or landlord, educated or not, high or low, who would tell you the exact produce of his land. They think that veracity in this matter will be attended with great misfortune. Perhaps it originated from the fear of being taxed by Government heavily for commutation or tythe. If the welfare of the paddy growers be contemplated by the present Bill, and if a just and equitable tax is to be imposed upon the staple food of the people, a better and a surer mode of assessment should better be adopted than the one pursued by the recent Commissioners.

I have known some Government Agents take the supposed lowest and highest yield of a land, and take the mean or half of the sum as the average yield for a year. Even supposing the yield was correctly taken, this mode of calculating is quite erroneous. Where is the allowance for failure of crops? Out of nine years, I shall suggest three years for failure, and three years for bad or low crops, and three years for high crops; and one-third of the bad and good crops must be taken as the average for one year. It is true the difficulty to find out the yield is very great. As a large extent of the people is involved in this, Government should not grudge expense and trouble to adopt a more unerring process of calculation.

Even the Government officers in this district, who are owners of lands, look upon their interest as secondary to those of the Government, and they have other ways of averting or retrieving any hardships they may have to suffer.

J. CROWTHER.

Batticaloa, 26th November, 1878.

Statement referred to.

Cost of 75 bushels sowing extent cultivated by three persons:—

	R.	P.
Seed paddy	75	0
Consumption paddy	45	0
Hire for cattle for ploughing or trampling	45	0
Do. plough and mamoties, &c. ..	11	0
Do. reaping	30	0
Do. threshing	11	0
Ground share for owner	75	0
Profit on consumption paddy ...	45	0
Vatta Vidahn's hire	7	0
	347	0
Tythe...	34	0
	381	0

GRAIN TAX ORDINANCE.

Evidence.

Cost of one man's cultivation of about 22½ bushels' sowing extent.

	R.	P.
Seed paddy	22	2
Consumption paddy	15	0
Cattle hire for ploughing or trampling ..	15	0
Hire for plough, mamoties, &c. ...	3	3
Profit on consumption paddy ...	15	0
Hire for reaping...	7	2
Do. threshing including cattle hire...	3	2
Do. Vatta Vidahn	2	1
Ground share for owner	22	2
	107	0
Tythe .	10	0
	117	

Cost of 75 bushels' sowing extent cultivated by hired coolies.

	R.	P.
Seed paddy	75	0
Hire of five pairs of buffaloes ...	37	2
Hire for preparing the land... ...	45	0
For sowing the same	15	0
Cost of fence	45	0
Value of materials, mamoties, &c.	7	2
Watering field...	45	0
Threshing and removing paddy ...	30	0
Reaping and stacking the same ...	75	0
	350	0
Tythe...	35	0
	385	0

J. CROWTHER.

WRITTEN Answers by Messrs. SAVERIMUTTU, Chief Mudaliyar, and A. J. IRAKUNATHA, Mudaliyar, Maniyakar of Valikamam West.

Question 1.—Yes; it is practicable.

In the Peninsula of Jaffna and in all the other Islands excepting Punkudutivu, there are few lands which do not produce a crop every year. In Karachchi, Punakari and Punkudutivu some of the cultivators who own extensive lands leave now and then portions of their lands unsown. However, the grain commutation must be made compulsory for the following reasons, viz. :—

1. Influential farmers, in some of the villages, who defraud the renters by evading to pay to them the full quantity of the tythe which is justly due to them, not only decline to commute for their lands, but also prevent those under their influence to commute.

2. Influential men, who speculate on grain rents and make large gain by extorting from the poor ignorant cultivators, use their influence to prevent the settlement of commutation in their villages.

Question 2. No. The option between grain commutation and grain tax should be given in cases of lands which have produced a crop less than seven times in the fourteen years.

Question 3.—Yes. The late Government Agent, P. A. Dyke, Esq., used to get the assessment of paddy commutation revised every ten years; therefore, seven years is a fair limit.

Question 4.—The cultivation in this district may be classed under three heads, viz. :

1st class of cultivation yielding about 24-fold.
2nd do. do. 12 do.
3rd do. do. 6 do.

12-fold out of the 24 will cover cost of raising a crop by cultivation of the 1st class
8 do. 12 do. 2nd do.
3 do. 6 do. 3rd do.

Particulars of the charge for cultivating one acre equal to twenty-four lachams paddy culture.

First class.

	Rs.	Cts.
Repairing dam 3 coolies at 25 cents ...	0	75
Ploughing (average) 6 times at 1 rupee ..	6	0
Manuring	24	0
Seed paddy, 2 bushels at 2 rupees ...	4	0
Weeding, 24 coolies at 12½ cents ...	3	0
Transplanting, 5 coolies at 25 cents ...	1	25
Irrigating, 12 coolies at 37½ cents ...	4	50
Reaping and stacking, 12 coolies at 31¼ cents	3	75
Threshing, &c., 12 coolies at 31¼ cents	3	75
	51	0
Deduct value of 30 bundles straw at 50 cents	15	0
Total actual cost...	36	0

This 36 rupees is equal to 24 bushels of paddy at 1 rupee and 50 cents (which is the present rate of commutation), and 24 bushels is twelve-fold of the seed paddy.

Second class.

	Rs	Cts.	Rs.	Cts.
Repairing dam, 3 coolies at	0	25	0	75
Ploughing average 4 times at	1	0	4	0
Manuring			12	0
Seed paddy, 2 bushels at	2	0	4	0
Weeding, 20 coolies at	0	12½	2	50
Transplanting, 5 coolies at	0	25	1	25
Irrigating, 12 coolies at	0	37½	4	50
Reaping & stacking, 8 coolies	0	31¼	2	50
Threshing, &c., 8 coolies at	0	31¼	2	50
			34	0
Deduct value of 20 bundles straw at 50 cts.			10	0
Total actual cost ...			24	0

This 24 rupees is equal to 16 bushels of paddy at 1 rupee and 50 cents (which is the present rate of commutation), and 16 bushels is eight-fold of the seed paddy.

Third class.

	Rs.	Cts.
Repairing dam, 2 coolies at 25 cents ...	0	50
Ploughing, twice at 1 rupee ..	2	0
Manuring	6	0
Seed paddy, 2 bushels at 2 rupees ..	4	0
Reaping and stacking, 4 coolies at 31¼ cts.	1	25
Threshing, &c., 4 coolies at 31¼ cents ...	1	25
	15	0
Deduct value of 12 bundles straw at 50 cts.	6	0
Total actual cost ...	9	0

This 9 rupees is equal to 6 bushels of paddy at 1 rupee and 50 cents (which is the present rate of commutation), and 6 bushels is three-fold of the seedy paddy.

There are some lands which are cultivated so richly as to yield from 24 to 36-fold and more, but their number is so few that it is not thought necessary to give them a separate class.

Question 5.—The land should be inspected while it is in crop.

The quantity of seed grain is not the same for all grains :—

	Bls.	Qts.
Paddy per acre	2	0
Varaku do	0	12
Moudi do.	0	6
Putchami do.	0	6
Karuthachami per acre ...	0	24
Kurakkan do.	0	12
Tinai do.	0	6
Panichami do.	0	24

				Bls.	Qts.
Ellu	per acre	...	...	0	6
Payaru	do	...	...	0	8
Ulunthu	do.	...	...	0	8
Kollu	do.	...	...	0	8

Question 6.—There are no means of ascertaining the actual crops of any one field or their value for the last fourteen years. But a very nearly approximate estimate can be formed by reference to the paddy commutation register and the accounts of grain rent sales for the last fourteen years. The probable value of the produce of any one field when cultivated in the ordinary course of husbandry can be easily determined by inspecting the land.

The price of grain during the last fourteen years should be taken from the valuation returns furnished to the Government Agent by the Customs Department, and from the headmen's valuation reports for the sale of grain rents.

Question 7.—For the payment of grain commutation 30th April; and for the payment of grain tax, 30th of June.

WRITTEN answers by A. MAYILVAKANAM of Kóppai, Jaffna.

Question 1.—I am of opinion that compulsory commutation is not practicable in the Peninsula and the Islands. My reasons for this opinion are the following, viz. :—

1st. In a place like Jaffna, where as a rule there are absolutely no means of irrigation and the farmer is wholly dependent on rain for cultivation, failure of crops is not unfrequent, and one or two failures under the *compulsory* commutation system would I think materially affect the wealthier class of cultivators, tell very severely on the middle class, and I may say ruin the poorer farmers. For the last five or six years, only last year's crop was a fair one; the crop of 1876 was a total failure, the seed paddy to my knowledge not having been recovered in a vast number of cases. The other year's crops were partial failures, little more than the cost of cultivation having been realized.

2nd. The difficulty of converting grain into money in certain localities such as the Islands, Punaryn, Pachchilappalai, &c., would render compulsory commutation extremely onerous. This is borne out by the fact of a number of writs being annually issued against the property of those who fail to pay the commutation money under the Ordinance No. 14 of 1840.

3rd. I shall here allude to a circumstance which shews that compulsory commutation is not acceptable to the people of Jaffna. Commutation is left optional under Ordinance No. 14 of 1840, yet comparatively but a few have availed themselves of it, simply to escape the extortion of the renter. It is in utter disfavour with the mass of the Jaffnese.

Question 2. I am decidedly of opinion that option between "grain commutation" and "grain tax" should be given to the cultivators in all cases.

In this connection I beg leave to make a suggestion. If the grain tax be left optional, provision being made allowing the cultivator to pay that tax either in money or *in kind*, the proposed Ordinance would be acceptable and advantageous to the people. The cultivator would not be put to the inconvenience of restraints in reaping and threshing, to which the renting system or collection in áumani subjects him, nor would he be exposed to the extortions practised under those two systems, though still continuing to pay in kind, for he would have to give a fixed assessed quantity of grain. The assessment would of course preclude any collusion between the cultivator and the collecting officer to the detriment of the revenue.

Question 3.—The shorter the period for a trial, the better; I would propose four years as a fair limit.

Question 4.—The cost of cultivation varies with the locality. In general I think eight fold of yield sufficient to cover the cost of raising the crop.

Question 5.—The best means of ascertaining a proximate estimate is to appoint competent persons to value the crop when it is nearly ripe.

Question 6.—As to what is the best method of ascertaining the actual crops of any one field, and their value for the last fourteen years. I cannot suggest any wholly reliable method. The assessment annually made by the headmen, and furnished to the Government Agent might give a proximate idea of the value of the crops of any one field for the last fourteen years.

As to what is the best method of estimating the probable value of the produce of any one field when cultivated in the ordinary course of husbandry, if the field has not been previously cultivated it would be impossible to form an estimate, seeing that the produce of fields in the same locality varies exceedingly.

Question 7.—If commutation must be paid in Jaffna, payments should not be exacted before the 31st of August, to allow the people time to convert their paddy into money.

GRAIN TAX ORDINANCE.

CORRESPONDENCE.

The ASSISTANT GOVERNMENT AGENT, Ratnapura, to the Hon. the GOVERNMENT AGENT, Colombo.

Assistant Government Agent's Office,
Mawanella, 4th November, 1878.

No. 784.

SIR,—In reply to your circular of the 30th ultimo, I have the honor to inform you that I hope to be able to forward the remarks of the Ratemahatmayas on the draft Grain Ordinance within a week or ten days. I annex my own observations hastily drawn up.

I wish to draw your particular attention to two clauses, which, I think, will act prejudicially if carried out, as I understand them, in this district.

Clause 8, Part I., determines the manner in which the Commission shall assess the amount of grain commutation where no agreement can be entered into.

Many fields in this district remain uncommuted, because the people will not bind themselves to pay tax seven times where three or four crops only are raised. But as almost all these fields are cultivated every second year, they will come under the compulsory commutation of clause 7. It should distinctly appear whether the owners after such compulsory registration must pay for each of the seven years, or be relieved from payment for the year in which the land lies fallow.

Again, I think, an objection to the clause, as regards this district, is that if the assessment be carried out according to the letter of the clause, the amount payable as commutation will be considerably increased above the rate paid under the last agreement.

The commutation for 1869–75 was at the rate of 2*s.* 6*d.*, or 1 rupee and 25 cents per bushel=6 rupees and 25 cents per amunam. It was found that this rate was too high, and that the people would not commute for the next seven years unless it was reduced. So the present agreement of 1877–83 was altered to 2*s.* 6*d.* or 1 rupee and 25 cents per pela=5 rupees an amunam or 2*s.* a bushel. Now in this district there is hardly what may be termed "a market price" for paddy, as the villagers only deal in paddy to be repaid in paddy both principal and interest. If the rate be taken from the Chetty and Moor traders, it will be found that the "market rate" varies from 2*s.* to 4*s.* per bushel, and is generally about 3*s.* average. Hence it will be seen that unless the Commissioners are given a discretion in fixing the commutation rate according to the paying-capacity, rather than the market price of the district, the tax will be increased, and the revenue officer will find it impossible to collect. I may here remark that the great difficulty in collection of the present commutation arises from the non-possession of "money" by the villagers in the remote districts. There is no coin, and no market for the sale of produce.

I do not think the proviso meets my objection, for though the scarcity of money ought theoretically to decrease the value (= the money value) of the annual produce, yet the same cause proportionately decreases the paying-power of the goyyá

Clause 14, Part II.—I am not sure that the framer of this clause contemplated the collection of tax on private and Crown chenas sown with hill paddy (el-wí). If the clause stand in its present form it will have the effect of almost abolishing the tax on chenas. The man who cultivates every year a piece of jungle over fourteen years old escapes tax on every such cultivation, and notwithstanding the proposed registration, I doubt much that tax will be recovered on the next cultivation, perhaps ten or fifteen years subsequently, owing to the vagueness of boundaries (often imaginary) the different and constantly varying names and the impossibility of identification of the part registered in a large chena, as having been already cultivated. Identification in court will be impossible under clause 14 or 16.

I think it must be arranged by excluding chenas from the operation of clause 14, and by enlarging clause 9. The procedure in force in this district might be followed. The cultivator about to clear his chenas gives notice of his intention to the headman who sends on the lists to the Ratemahatmaya. When the crop is sown the assessor (víbaddé lékamu) goes round and assesses the extent, the probable yield, and the proportion due to Government. The latter, instead of being sold, as now, should be redeemed by the cultivator at a rate fixed by the district commissioner.

I fear that the grain duty on the el-hép will be extremely difficult in recovery in this district, not so much on account of poverty, as owing to the scarcely of coin already alluded to. There is comparatively little paddy land in the Three Korales, and the people are chiefly dependent on chena cultivation, as has been frequently pointed out by my predecessors. The people have absolutely no money in the interior districts remote from the thoroughfares, as in Lower Bulatgama and parts of Panawal and Atulugam Korales. The chena rents are generally bought by Bandas or persons possessing property in other districts, or by the village headman who generally is the largest pangukárayá in the village. The ordinary cultivator will be unable to commute his share except by the mortgage of his field or other contracting of debts. A sale of property will hardly recover Government dues and is always to be deprecated. I hope, Sir, you will not consider me unreasonable in looking at the unsatisfactory prospect as regards the revenue, for I am fully aware of the great benefit to the people arising from the abolition of the renting system. I have to-day explained the proposed Ordinance to the headmen of Galboda and Kinigoda Korales, and the proposed legislation met their unqualified approval. They are disposed to take a lighter view of the money difficulty than I have done, but seeing the difficulty in recovering the present commutation on fertile fields, I think I am justified in my anticipations in the case of the grain duty payment.

The headmen consider that the remission of tax on asweddumized lands under clause 14 will be largely availed of by villagers in opening new lands, and that the time of payment under clause 15 will suit the requirements of this district.

The shortness of time allowed me for answer must be my excuse for not going more fully into the questions arising under the draft Ordinance.

I have, &c.,

R. W. IEVERS,
Assistant Government Agent.

The ASSISTANT GOVERNMENT AGENT, Ratnapura, to the Hon. the GOVERNMENT AGENT, Colombo.

GRAIN TAX ORDINANCE.

Correspondence.

No. 862. Ratnapura, 7th November, 1878.

SIR,—In reply to your circular letter dated 30th ultimo calling for my report on the proposed Grain Tax Ordinance, I have the honor to state that I see no difficulty in carrying out its provisions in this district, with the following exception :—The 7th clause provides for the non-payment of tax where the yield has not been at least three-fold. I consider this provision superfluous, for, with very rare exceptions indeed, the yield is more than three-fold, and it will give infinite trouble to ascertain what the yield actually is; the cultivators keep no regular account of what they sow and the headmen have no means of ascertaining; it may be five or six-fold, and yet a headman would be puzzled to say it was more than three, and in case of doubt he would only appeal to the cultivator. This provision will lead to great imposition. I would recommend that the present plan be still continued, namely, to allow the Assistant Agent to recommend the remission of tax where the field has yielded such a very bad crop as three-fold on the quantity sown.

I would recommend the 31st October as the date within which the tax must be paid where the land has been commuted.

The 31st March is too early, and to recover the tax then would greatly interfere with the succeeding harvests of the year. At present nearly all the recoveries are made towards the end of October to the great benefit of the cultivators.

I will forward the reports of the Ratemahatmayas as soon as I receive them. There was no time to get their opinion before the 5th instant.

I have, &c,
P. A. TEMPLER,
Assistant Government Agent.

The ASSISTANT GOVERNMENT AGENT, Negombo, to the Hon. the GOVERNMENT AGENT, Colombo.

Negombo, 3rd November, 1878.

SIR,—I HAVE the honor to report with regard to the new Grain Tax Ordinance that, so far as I have been able to gather from conversations during the last few weeks with some of the leading natives in this district, it will, I believe, be gratefully received by most, if not all.

I would however venture to suggest that the minimum crop fixed in clauses 7 and 16, that a three-fold yield shall be necessary to constitute a crop, might without damage to the revenue and with advantage to the cultivator be slightly raised—say from three-fold to four-fold.

I think that when crops had been damaged the difference between three-fold and four-fold could hardly affect the revenue, and of course in a good year it would not matter what the minimum fixed for a crop might be; but to a small cultivator in a bad year it might make a good deal of difference.

For the rest I have no remarks to make, as I think that the proposed Ordinance quite answers all requirements.

I annex a few opinions from headmen and cultivators: I will forward others hereafter, when received.

I have, &c.,
H. W. GREEN,
Assistant Government Agent.

Mr. J. RAJEPAKSE to the ASSISTANT GOVERNMENT AGENT, Negombo.

Negombo, 2nd November, 1878.

SIR,—WITH reference to your circular letter of the 31st ultimo, requesting me to give my opinion on the proposed Grain Tax Ordinance, I beg to submit the following :—

As the present system of farming or renting has been generally condemned it is unnecessary for me to say anything on that subject. With regard to the system of commutation now proposed, on the whole it appears to be good in principle and may be accepted by the cultivators as such; but however, I beg to observe that the new Ordinance very properly allows to those who do not cultivate their fields regularly every year, owing to unavoidable circumstances, to pay by way of grain duty when they do cultivate and get a crop, but *a larger sum*. This, if I understand correctly, means to take the full average annual amount from these fields too, although not directly, instead of the proportionate share Government is entitled to as at present, and according to their respective crops. If so, this does not surely appear to me to be very fair.

In cases where the cultivators, through neglect do not cultivate their lands, certainly it may be fair enough, but not in other cases.

With this exception I am inclined to believe the proposed Bill to be a good one. I will also here add that the concessions allowed for lands uncultivated during the last fourteen years and for new lands that will be brought under cultivation after this Ordinance comes into operation, are really very liberal, and will no doubt be appreciated by all who are concerned.

I remain, &c.,
J. RAJEPAKSE.

GRAIN TAX ORDINANCE.

Correspondence.

Translation of letter from C. D. B. PERERA, First Vidana Arachchi of Dasiya Pattu, to the ASSISTANT GOVERNMENT AGENT, Negombo.

I RECEIVED the order dated the 31st October regarding the paddy tax, and in reply I beg to report that I am of opinion that the old system of paying the commutation tax on account of the share due to Government in paddy upon a proper appraisement is more convenient to the cultivators and inhabitants than the present system.

In proof whereof, this was written and submitted by me, Carolis De Bastian Perera, First Vidana Arachchi of Dasiya Pattu.

C. D. B. PERERA.

1st November, 1878.

Mr. S. FERNANDO to the ASSISTANT GOVERNMENT AGENT, Negombo,

Negombo, 1st November, 1878.

SIR,—WITH reference to your circular of the 31st ultimo, I beg to inform you that the provisions of the proposed "Grain Tax Ordinance" therein alluded to, are, as I am of opinion, quite satisfactory to all concerned in the matter, and, as for my part, I have not anything to say against the same.

I have, &c.,
S. FERNANDO.

Mr. H. R COREA, Interpreter Muhandiram of the Negombo Kachcheri, to the ASSISTANT GOVERNMENT AGENT, Negombo.

3rd November, 1878.

SIR,—WITH reference to your circular of the 31st October last and its annexure, I have the honor to state that I have carefully read the clauses of the proposed new Grain Tax Ordinance. They appear to be just in theory, but I cannot conscientiously maintain that they will be found satisfactory in practice.

To obviate most of the evils now complained of—evils arising from the necessity of levying a tax of one-fourth and one-half—I would suggest the expediency and propriety of bringing all rates to one-tenth before any rules should be introduced for the benefit of the cultivators.

It is highly probable that in such case the commutation of the grain tax in money will be embraced by the people with avidity.

In conclusion, I may add that to facilitate the collection of taxes, let responsible officers be appointed by Government on a monthly salary or by a commission to be fixed by Government to receive them in the same way as the road tax by granting receipts to the parties, who, on producing them to the headmen of the village, will be allowed to cut and remove their crops in any way they please.

I am, &c.,
H. R. COREA.

Translation of letter from SAMIEL FERNANDO JAYAWARDANA, Vidana Arachchi of Godakahapalata, to the ASSISTANT GOVERNMENT AGENT, Negombo.

IN pursuance of the order of the 31st ultimo, I have considered on the matter and asked the opinion of the agriculturors of my jurisdiction regarding the present renting system, and the system which is now under consideration. They prefer the latter in every respect.

2nd November, 1878.

Mr. J. D. PERERA, Mohandiram of Hapitigam Korale, to the ASSISTANT GOVERNMENT AGENT, Negombo.

Hapitigam Korale,
No. 60. Bandurugoda, 2nd November, 1878.

SIR,—I BEG to state that having consulted some of the principal headmen and a few cultivators in the district, as there was no time, the reply being required to-day itself, it is their opinion as well as mine that the Ordinance will work well.

I have, &c,
J. D. PERERA,
Mohandiram.

Mr. G. FERNANDO, Mudaliyar of Alutkuru Korale North, to the ASSISTANT GOVERNMENT AGENT, Negombo.

No. 452. Alutkuru Korale North,
Negombo, 1st November, 1878.

I BEG to submit that I have carefully read over the Grain Tax Ordinance of 1878, and I am of opinion that it is one calculated ro meet the convenience of all the paddy land owners of my district in every respect.

The opinions of my three Vidana, Arachchies, and the opinion of the Korale Mohandiram will be furnished to you as soon as they are received.

G. FERNANDO,
Mudaliyar.

Mr. H. L. DASSENAIKE, Mudaliyar of Hapitigam Korale, to the ASSISTANT GOVERNMENT AGENT, Negombo.

No. 442. Hapitigam Korale, 2nd November, 1878.

SIR,—WITH reference to your memorandum No. 499 of the 31st ultimo, received only yesterday, I beg to state that there was no time for me to consult my principal headmen or others respecting the new Grain Tax Ordinance, and to give my opinion, as well of the headmen and cultivators, on or before this day as requested by you, but the few cultivators and headmen near about my place state that the Ordinance in question will answer well, in which I agree.

I have, &c.,
H. L. DASSENAIKE,
Mudaliyar.

P. S.—I enclose the written opinion of the First Vidane Arachchi of Hangawatta and the Vel-Vidana Arachchi of Kaleliya.

Translation of opinion of SEENCHI, Vel-vidana Arachchi of Kaleliya.

As to what I heard and understood of the Paddy Tax Ordinance, I am of opinion that the payment of commutation tax is very reasonable.

In proof whereof, this was written and submitted on the 2nd November, 1878, by me, Bulugahamulle Patirannehelage SEENCHI, Vel-Vidana Arachchirala of Kaleliya.

Translation of opinion of S D. PERERA, Vel-Vidana Arachchi of Udugampola.

IN reply to the order dated the 31st ultimo, regarding the paddy tax, I beg to report, that it will be more convenient to the inhabitants to recover the commutation tax in cash upon a proper appraisement; besides that, it will be convenient to the cultivators to recover a tax upon a proper appraisement from paddy lands of which produce can be derived and which had been damaged by flood yearly for seven or eight years. I am of opinion that it is good for the improvement of the country to allow the inhabitants to cultivate for a limited number of years the abandoned fields at present, or which are necessary to be asweddumized, without recovering a tax by the Government.

In proof whereof, this was written and submitted on the 2nd November, 1878, by me

S. D. PERERA.

Mr. H D. ALWIS, Muhandiram of Alutkuru Korale North, to the ASSISTANT GOVERNMENT AGENT, Negombo.

Dagonna, 2nd November, 1878.

SIR,—I BEG to submit, with reference to the proposed Grain Tax Ordinance that I have read over it and also explained to some of the paddy cultivators and headmen of the district, who agree with me that the system of commutation to be good on principle, because of the fact that according to the present system the cultivators are harassed to a great extent, owing to the various troubles they are subject to from the time of the cultivation of their paddy fields up to the time of threshing. I am further of opinion that the concessions allowed are very liberal.

I have, &c.,
H. D. ALWIS,
Muhandiram.

Translation of opinion of DAVID PARIS, Vidana Arachchi of Halpe.

IN reply to the order dated the 31st October, 1878, regarding the paddy tax, I beg to report that I am of opinion that it is fair and reasonable to pay the commutation tax for each field according to the *old system* for the convenience of the inhabitants.

In proof whereof, this was written and submitted on the 4th day of November, 1878, by me

DAVID PARIS.

Mr. JNO. G. DASSENAIKE, President, V. C., to the ASSISTANT GOVERNMENT AGENT, Negombo.

No. 268. Village Tribunal,
Minuwangoda, 1st November, 1878.

SIR,—WITH reference to your letter dated 31st ultimo, and its annexure, which reached me only last night, I have the honor to inform you that I am of opinion that the enactments in the Grain Ordinance, 1878, are very liberal towards the cultivator, and are generally calculated to promote the cultivation of grain.

With respect, however, to Part II., clause 14, I have to observe that paddy cultivators are in the habit, at different intervals, of reclaiming marginal reservations of paddy fields; and these portions are sometimes of such insignificant extent, that it may escape the cultivator to give the required notice to the Government Agent, &c., and may involve him in a fine, which may cause him to lose his land. I do not say, that with the liberal provisions of the Ordinance in other respects, this simple requirement should not be complied with; but, as I said before, when the

GRAIN TAX ORDINANCE.

CORRESPONDENCE.

reclaimed land is of very insignificant extent, it may escape the cultivator to give notice, or *through fear of exceeding the bounds* of the already registered portion, he may *cultivate less*, and defeat the views of the Ordinance of promoting cultivation. I beg, therefore, to suggest that the notice should be restricted only to portions exceeding a certain sowing extent, say either half, or one-bushel. This amendment will not only lead to the promotion of agriculture, but at the next revision of the grain tax more land will be found brought under cultivation to the benefit both of Government and cultivator.

I have, &c.,
JNO. G. DASSENAIKE.

Mr. CHARLES F. W. KARUNARATNA, Deputy Coroner, Negombo, to the ASSISTANT GOVERNMENT AGENT, Negombo.

Negombo, 6th November, 1878.

SIR,—I HAVE the honor to submit—

1. That under the fifth and seventh clauses it is not clear if lands which have yielded less than seven crops during fourteen years, and which do not pay annual commutation, are to pay a larger sum for such years only in which the land produced a crop. If it is meant a larger sum is to be paid, I think it improper, and it would be more reasonable to provide that in case of such lands the sum payable for such years as grain duty should be equivalent to the annual rate of grain commutation, if annual money payments were paid in respect of such produce.

2. I am of opinion that the tenth clause should be amended by providing that any party dissatisfied with the determination of the commissioner or commissioners not only under the eighth and ninth clauses, but under the seventh clause also, may appeal to the Government Agent and the Executive Council.

The register under the eleventh clause should contain the names of the owner, possessor, and cultivator and extent, and also name of the person liable to pay duty. It is an unnecessary hardship to refer a party aggrieved with the register to the District Court only, and provision should be made referring such party to the District Court or Court of Requests, according to the amount involved, otherwise when the damage is even a rupee or two the party aggrieved will have to undergo much inconvenience, delay, and unnecessary expense of a District Court case and this would be embarassing proceedings instead of facilitating them.

4. The fourteenth clause provides that any person sowing or causing to be sown any land without notice shall be liable to a fine not exceeding the value of the land. This I consider exorbitant for a person who owns an only parcel of land under the sun may under this clause lose the same for ever for so simple an offence; and I think a fine not exceeding fifty rupees or imprisonment with or without hard labour not exceeding three months would be quite adequate to meet the ends of justice.

5. The fifteenth clause makes the grain commutation payable on the thirty first day of March in each year, but whether the tax so made payable is that year's tax or the previous year's tax it is not clear. A land is not deemed to have yielded a crop unless such year's yield is at least threefold on the quantity of seed sown, and this cannot be ascertained till after the harvest. There are large number of fields which are not cultivated till about the middle of the year, and hence it will be impossible to pay the duty by the last day of the first quarter, and it is therefore necessary to amend this clause and fix a later date; but, however, if the clause is meant to apply for payment of previous year's tax it may stand as it is.

6. As regards the penalty imposed by the sixteenth clause, the same remarks I made in the fourth paragraph would apply.

7. I would also suggest the addition of a clause that every Government Agent, Assistant Agent, commissioner, assessor, valuator, and other officer whatsoever, and every person acting in the aid of any such officer, and every other person who shall under pretence of performing any duty or exercising any authority imposed upon or vested in him by this Ordinance, use unnecessary violence, or wantonly do any injury or give uncalled-for and vexatious annoyance, shall be guilty of an offence, and be liable on conviction to a fine not exceeding fifty rupees, or to imprisonment, with or without hard labor, for any period not exceeding three months.

8. I must add that the mode of recovery as provided by the seventeenth, eighteenth, nineteenth and twentieth clauses is harsh and would be oppressive, and would suggest the adoption of some lenient measures in their stead. Recovery by due course of law, or seizure in the first instance of the crops after the service of a notice in writing to the defaulter, would be better.

In conclusion, I have to remark that I do not regard any tax on the very thing which ought not to be taxed—the chief staple of the daily food of the people—as just or proper, but on the contrary I think such food taxes are bad and strongly objectionable on principle and impolitic, unjust, and improper. To use the words of the noble Governor, Sir Henry Ward: "They were a blot on the escutcheon of England." And as regards the tendency of these taxes I cannot better express myself than in the words of Dr. Brownson: "It (the Government of Great Britain) fails to secure the common weal; enriches the few and impoverishes the many." But although I cannot conscientiously approve of this tax on men's daily bread, acting on the principle that of two evils one ought to chose the least, I have made the foregoing remarks, as the present Ordinance is no doubt better than all the former enactments on the subject. However, I hope my choice will not be like that of the missionary who, having often condemned marriage as an evil on account of the cares, hardships, and burdens which accompany it, afterwards got married to a very diminutive lady under the impression that thereby he chose the least of two evils.

I am, &c.,
CHARLES F. W. KARUNARATNA,
Deputy Coroner.

Mr. P. J. PERERA, Negombo, to the ASSISTANT GOVERNMENT AGENT, Negombo.

Negombo, 6th November, 1878.

SIR,—WITH reference to your circular of the 31st ultimo, I beg to submit that the grain landowners and cultivators will have to undergo much inconvenience, hardship and loss by the provisions of 17th, 18th, 19th, and 20th clauses of the proposed Grain Ordinance, and I would therefore suggest that a few more clauses may be added empowering the Government Agent or the Assistant Government Agent, or any person authorised by him in writing, to prosecute the defaulters before the Police Court (free of stamp duty), or to institute cases before the Court of Requests or the District Court (free of stamp duty) for the sums due, which ought to be recovered upon writs issued as provided by the Fiscal's Ordinance.

I am, &c.,
P. J. PERERA.

The ASSISTANT GOVERNMENT AGENT, Kalutara, to the Hon. the GOVERNMENT AGENT, Colombo.

Assistant Government Agent's Office,
No. 1,034. Kalutara, 25th November, 1878.

SIR,—I HAVE to apologize for the delay which has taken place in replying to your circular of the 6th instant. It was not, however, until the 22nd instant that it came before my notice, and I much regret that the shortness of the interval has left me but scanty time for giving the matter the consideration which it deserves. I beg therefore that you will excuse me from setting forth at length my views in respect of the provisions of the proposed enactment. When I landed in the Island, a fortnight ago, I heard of the measure under contemplation for the first time, and not knowing that I had still an opportunity of submitting my views upon the subject, I had postponed its consideration in favour of the many topics I found here requiring immediate attention. The subject is one, I need hardly say, of the keenest interest to me, and I should be extremely reluctant to give expression to any opinions in regard to the measure under consideration which more mature deliberation might afterwards lead me to abandon.

There is one point, however, which strikes me forcibly, and that is the far greater suitability of the "grain duty" system to the disposition and habits of the Sinhalese people than of the alternative contemplated in the form of "grain commutation."

I hold, in direct opposition to some students of native character, that the Sinhalese people are *essentially improvident*, and it is for this reason that a system of compulsory commutation, which requires a money payment to be made in good years and in bad years alike, appears to me to be as little calculated to be successful in its operation as it is likely to be welcome to the people.

Every native would pay his one-tenth willingly in good or even in moderate years, but in bad years he would be extremely reluctant, and in many cases positively unable to do so. The constant existence of arrears of tax uncollected, which would unfailingly result from this system, appears to me to be a most unwholesome condition telling injuriously upon the cultivator, the tax collector, and the revenue, and therefore much to be shunned. The collection of "grain duty," on the other hand, is free from these objections, and the payment might be required of the cultivator as a preliminary to giving him authority to reap his crop. It is a system which I think would work well and be acceptable to the people.

I would therefore suggest that the election to pay "grain commutation" or "grain duty" be in *all* cases optional, and I further trust that close circumspection and minute enquiry may lead to the adoption of a more generous limit in the definition of a "crop" in the close of clause 15, Part II., for I cannot bring myself to think but that the cultivator who obtains only three-fold on his seed paddy can do otherwise than suffer serious loss.

The reports of my Mudaliyars are hereto annexed.

I have, &c.,
H. HAY CAMERON,
Assistant Government Agent.

Mr. M. SUMENESEKERA, Mudaliyar, to the ASSISTANT GOVERNMENT AGENT, Kalutara.

No. 513. Kalutara, 25th November, 1878.

SIR,—WITH reference to your circular of the 8th instant, annexing copy of one from the Hon. the Government Agent, I have the honor to report that I have caused the provisions of the proposed Grain Ordinance to be made known to the landowners, cultivators, and others generally, through the headmen of my district, who inform me that only a very few of the cultivators of each division are willing to enter into grain commutation, and that is those who are in possession of small extent of annually cultivated lands which give a good yield.

All the rest who own many tracts of extensive fields are unwilling for it, because, although they are regularly cultivated every year, yet on account of inundations, rain, and other causes, the crop is damaged, and hardly anything remain for themselves after payment of tax, and that therefore they pray, before the commutation system becomes compulsory, all the now-neglected canals through those extensive tracts of fields be repaired and kept up clear (as flood outlets) and they then one and all are willing to enter themselves to the commutation.

In my district (Totamuné) there are tracts of fields from thirty to forty or fifty bushels in extent belonging to one family; the whole of it can be cultivated annually (if they are willing and industrious), but out of which an extent of three or four bushels only is cultivated for one year for want of means, and in the next year another portion of the same field to the extent of five or six bushels, so the owner or the cultivator of such a land cannot say that that land was not annually cultivated; and under the commutation system he bends himself to commute for the whole 40 or

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50 bushels, whilst cultivating four or five bushels every year. Another reason that the extensive landowners do not like commutation is, that if they do so new arrangements shall have to be made with their cultivators as to the manner of tax payment between themselves, and that if the cultivators do not like to come to the terms of the field owners, that field must be left waste, but the owner who commutes shall have to pay tax, whether cultivated or not.

Both the landowners and cultivators of Panadure and Kalutara districts are willing to pay grain duty of a fixed sum on the Government share of the produce of every land cultivated for the year, or to allow them to pay tax as hitherto by sale of rents, notwithstanding the inconvenience and trouble they are put to by renters.

My own opinion on this subject after the above explanation of headmen and cultivators on the manner of cultivation and its irregularity in the district, is that it is desirable to make cultivators pay "grain duty" of a fixed sum on the Government share of the produce of every field whenever it is cultivated. This I may mention is not so beneficial to the revenue as the renting system, but I think it would be a great relief to the poor cultivators.

I am, &c.,

M. SUMENESEKERA,
Mudaliyar.

Mr. D. DE S. GUNERATNA, Mudaliyar, to the ASSISTANT GOVERNMENT AGENT, Kalutara.

No. 475.

Rayigam Korale,
9th November, 1878.

SIR,—WITH reference to your two circulars of the — and 8th instant, relative to the new Grain Ordinance, I have the honor to inform you that I have held several meetings of large bodies of cultivators, and explained to them thoroughly the various provisions of the Ordinance, and beg to annex hereto a memorandum embodying their main views and objections to the same.

I have, &c.,

D. DE S. GUNERATNA,
Mudaliyar.

THE paddy cultivators of Rayigam Korale urge certain objections to the new Grain Tax Ordinance They are,—

1. That the objections to pay the tax even for the years in which there has been no cultivation on the land is too great a hardship, the deduction of a one-tenth from it being no sufficient compensation. They are willing to pay only for these years in which the land is actually cultivated.

2. That the Ordinance contemplates the annual money payment to be calculated at the full average market price of paddy during the preceding fourteen years, a rate of assessment which they are too poor to pay, and certain, they think, to lead ultimately to the sale of their lands and to consequent hardship.

3. That being unable to pay money at this high rate, they are unwilling to enter into the contract on such terms, however severe may be the hardships to which they are now liable under the present system of renting, and therefore beg that the commutation may not be made compulsory.

4. That to enable such of the cultivators as may hereafter be inclined to accept the terms offered in this Ordinance, the Ordinance may be so amended as to make the commutation voluntary.

That the commutation scheme of 1839 failed, not because the renter of that time was a more lenient person, or because the evils of that system were less felt, but solely because cultivators were too poor to pay the tax in money.

5. That if the entire tax cannot at present be abolished, the Ordinance may at least be so altered as to fix some lower rate of payment, that is to say, a much lower price for each bushel of paddy due as the tax, in which case, if the price be such as they are able to pay, they will have no objection to a commutation even if it be compulsory.

6. They further add a prayer that in the appointment of the Commissioners required for the purposes of the Ordinance, the Government will be pleased to exercise a wise discretion in their election, so as to give the preference to those who are better acquainted with the circumstances of the cultivator, and who may therefore be expected to avoid any harshness in dealing with him.

D. DE S. GUNERATNA.

10th November, 1878.

Mr. G. A. SENEWIRATNE, Mudaliyar, to the ASSISTANT GOVERNMENT AGENT, Kalutara.

No. 427.

Matugama, 16th November, 1878.

SIR,—WITH reference to your circular (without date) I beg to report that on inquiry I am given to understand that the people in general agree with proposed Ordinance therein referred to.

I beg, &c.,

G. A. SENEWIRATNE,
Mudaliyar.

The GOVERNMENT AGENT, Kurunegala, to the Hon. the COLONIAL SECRETARY.

No. 584/24.

On Circuit, North-Western Province,
14th November, 1878.

SIR,—In reference to your circular of the 2nd instant, I have the honor to inform you that the translations received have been extensively circulated. I had already given notice of a public meeting of chiefs and landowners to be held in the Kachcheri on the 8th instant for the consideration of the Tithe Commutation Bill, and it was accordingly held and very well attended. The tone of the meeting was excellent, and the desire of Government to benefit the people by the abolition of the renting system was admitted on all sides.

I introduced the subject by pointing out that the principle of the Bill was compulsory commutation in the failure of an agreement with the landowners, the procedure in fixing the amount being of a judicial nature upon a basis distinctly laid down, and the judgment being subject to appeal to the Government Agent, and in the last resort to the Governor in Council.

We then proceeded to read over the Ordinance and to discuss it section by section, when the following remarks and suggestions were made :—

7th section.—Grain commutation seems to be compulsory whenever seven "crops" have been taken within fourteen years.

Care should be taken to explain the advantage of grain commutation over grain duty.

10th section.—Does this mean that if a District or Office Assistant Agent be the Commissioner, no appeal to the Agent of the Province lies ? If not, then omit "or any of his Assistants" in the 12th line.

11th section.—No appeal ought to lie to a court of law, but as in other cases to the Agent and Governor in Council.

12th section.—Is wilful disobedience to be punished directly by the Commissioner or through the Police Court ?

15th section. Mention should be made of "the local headman duly authorized by the Government to collect" the commutation.

Grain duty ought to be made payable before threshing instead of as soon as cut.

17th section.—Does moveable property include "cattle," for village cattle are turned into the field as soon as the range is reaped.

21st section.—Words should be added to have balance—if not claimed by the owner—put in deposit in Kachcheri for a limited time, and to lapse to the Crown if not claimed within a certain limit.

23rd section.—The time of prescription should be in 13th line altered from four to *three* months.

A section should be added to give the Governor power at any time to remit commutation or duty, in whole or part, in case of scarcity, disaster, or accident.

A form of receipt in duplicate for commutation and duty should be inserted.

I have, &c.,
W. E. T. SHARPE,
Government Agent.

The GOVERNMENT AGENT, Galle, to the Hon. the COLONIAL SECRETARY.

Government Agent's Office,
No. 556. Galle, 14th November, 1878.

SIR,—I HAVE the honor to acknowledge the receipt, on the 4th, of your circular letter of the 2nd instant, forwarding for circulation copies of a translation in the Sinhalese vernacular of the speech made by the Queen's Advocate in proposing the new Grain Ordinance.

2. Copies were sent to the Assistant Government Agents of Hambantota and Matara, and their replies are enclosed.

3. In this district copies were widely distributed through the Mudaliyars, and replies invited either personally by letter, or through the Mudaliyars, and meetings were held in several places for the discussion of the matter.

4. In all the replies I have received and in conversation I have held with the different Mudaliyars, a general assent has been given to the provisions of the Ordinance, and it is believed it will be followed by beneficial results to the people and probably also to Government in the extension of cultivation.

5. It is suggested (1) that the option of choice between grain commutation and duty should be allowed in all cases, as from unforeseen causes or reasons known only to the cultivators themselves they might prefer the latter to the former mode of payment ;

(2) That instead of one, two periods of the year should be fixed for the payment of the tax, viz., 31st March and 30th September, or at the close of the Maha and Yala harvests, when the people are likely to be able to pay from proceeds of crops ;

(3) That the tax paid by such as may be prevented from cultivating by unfortunate circumstances or may suffer loss of crop from unavoidable causes, should be refunded to them ;

(4) That the sale of lands for arrears of tax is open to abuse and that only moveable property or the crop of the field on which it is due should be liable for the same.

6. How far the suggestion of my Assistant at Hambantota, that a surveyor should be attached to each Commissioner for a detailed survey is practicable, I cannot say ; but however desirable and likely to lead to ultimate benefit, I fear it would too much protract the work of the Commissioner.

7. I beg to be allowed to express my conviction that if the work of the Commission is carried out in a fair and equitable manner and its members hold, as Mr. Williams terms it, a spirit of

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"benevolent neutrality" towards the landowners, the new Ordinance will confer a great benefit on the people, although, I believe, from the ignorance and untidy habits of the poorer ones of them, and their being hitherto unaccustomed to money payments, these may bring some of them into difficulties and lead to arrears in collection.

I have, &c.,
W. W. HUME,
Government Agent.

P.S.—The reply of my Assistant at Matara has only to-day reached me. I beg to invite attention to the objections therein raised to money payments.

The ASSISTANT GOVERNMENT AGENT, Matara, to the GOVERNMENT AGENT, Galle.

Matara Kachcheri,
No. 803. 13th November, 1878.

SIR,—I HAVE the honor to inform you that immediately on receipt of your letter No. 601 and copy of Colonial Secretary's circular letter of the 2nd instant, I circulated the copies of the translation of the Queen's Advocate's speech by means of special messengers, and fixed a public meeting for the 11th instant at the Kachcheri.

The meeting was well attended by intelligent and influential natives, between 400 and 500 persons being present and all without a single exception objected to the 7th clause of the proposed Ordinance, and asked me to forward their objections to Government with a request that the proposed compulsory commutation be re-considered.

There can be no doubt as to the scarcity at present existing in this district owing to the loss of several crops, and the people are now unable even to pay their road tax—much more the proposed grain commutation.

The people with reason remarked: "We do not mind paying in kind and even being cheated a little by the renters, for we pay out of what we actually receive from our fields, but to call on us to pay money would be to compel us to mortgage or sell our lands in order to obtain that money."

The objections raised are forwarded on a separate piece of paper.

I am, &c.,
E. M. BYRDE,
Assistant Government Agent.

1.—That the cultivators and proprietors of lands paying rent to Government are quite satisfied with the provisions of the Paddy Cultivation Ordinance No. 14 of 1840, and humbly suggest its retention, the only modification which it requires is that the rent be levied from the remainder of the crop after the seed corn is deducted. The existing mode of levying the tax affords every facility for the protection of the crop, because there are two grades of headmen in this district whose duty it is, in the interest of the Crown, to look after the crop.

2.—That the people object, on principle, to payments in money because when the money falls due it is not easily procurable, and the consequence will be a sale. That the proprietors and cultivators prefer payment in kind, will be evident from the fact that when the question of water-rate was determined they all prayed that they may be permitted to pay in kind. Further, it will appear from sales of land having already taken place for default in paying the water-rate, that the proprietors and cultivators are unable to pay in money, even when there has been a yield.

3.—That if the new Bill is to be passed, the proprietors and cultivators humbly suggest the alteration of clause 7, which makes grain commutation compulsory on lands that have yielded seven crops during the fourteen years next preceding the date of proclamation, and that it might be made optional with the people to pay grain commutation or grain duty upon all lands liable to pay tax, irrespectively of their having given seven yields or not during the fourteen years preceding the proclamation, after annual taxation of the standing crop.

In short, the prayer of the cultivators and proprietors, numbering about 500 who were present at the meeting held yesterday, is that they may be allowed to pay in kind whenever there is a yield; or if the commutation system is to be enforced, that they be allowed to pay in money after an assessment of the crop annually; otherwise it would result in all the lands belonging to the poorer class reverting to the Crown, or becoming the property of the others more fortunately circumstanced.

The ASSISTANT GOVERNMENT AGENT, Hambantota, to the GOVERNMENT AGENT, Galle.

Office of the Assistant Govt. Agent, Hambantota,
Tangalla, 11th November, 1878.

SIR,—In reply to your letter, No. 358 of the 5th instant, purporting to give cover to copies of translation of the speech made by the Queen's Advocate in proposing the new Grain Ordinance, which copies did not reach me till the 9th instant, I have the honor to state that I have made the best use I could of the time left at my disposal and have held an informal meeting at this station to-day.

Short as the notice was, I believe the intelligence of the district was fairly represented. Much of the land is held by natives of the Matara district, but most of the prominent landholders resident in the neighbourhood of Tangalla were present.

The Ordinance was discussed as far as possible, and no one had any definite alteration to suggest except a few comparatively uneducated persons, who expressed themselves as satisfied with the present mode of collecting the grain tax through the agency of a renter, and as averse to any change whatever. No doubt, however, the general feeling of the educated community

shewed itself distinctly in favour of the abolition of the renting system. A suggestion was made by a landowner, who is also a doctor, that the appeal provided by the 10th clause of the Ordinance should be to the ordinary courts of law, but was not seriously entertained. On one point, however, the feeling was unanimous and unmistakable, viz., that the latitude as regards option between grain commutation and grain duty, allowed by the 9th clause of the Ordinance, should be enlarged. It was said decidedly that payment of "grain duty" should be optional even in cases where two crops per annum are regularly obtained from a field.

As to the machinery by which the new system is to be introduced, no suggestion was offered by any one present. Indeed the people of this district are absolutely without experience in the working of the commutation system, and altogether ignorant of the principles on which it is founded.

Your letter under reply calls for no expression of my own opinion on the provisions of the Ordinance, but perhaps it may not be out of place for me to say that after having given it most careful attention, I can find no point in regard to which undue pressure seems to have been laid on the landowner, while, on the other hand, due provision has been made for the interests of the Government. No doubt many proprietors would prefer payment in kind to money payment, but with the exercise of the necessary discretion on the part of the commissioners entrusted with the introduction of the Ordinance, no cases of hardship ought to arise. The commissioners will probably hold themselves in an attitude of benevolent neutrality towards the landowners. Feeling convinced of the immense utility of a detailed survey of the country, I would suggest, in conclusion, that a surveyor should be attached to each commissioner. I make this suggestion with greater confidence from the conviction I entertain that the work of introduction in this district at least will be slow, owing to the ignorance and prejudices of the people.

I am, &c.,

G. S. WILLIAMS,
Assistant Government Agent.

The ACTING GOVERNMENT AGENT, Batticaloa, to the Hon. the COLONIAL SECRETARY, Colombo.

No. 157/58.

Batticaloa Kachcheri,
18th November, 1878.

SIR,—I HAVE the honor to acknowledge receipt of your circular letter of the 2nd instant. There was not time to hold public meetings to discuss the draft of the Grain Ordinance, but I circulated the documents sent to me; up to this time, however, I have received no communication on the subject.

I have the honor to suggest the amendment of clause 14. I am of opinion that such fields as therein referred to ought not to be exempted from tax; but that the crops should be assessed by the headmen, and that the tenth due thereon should be collected in money at the current market price of paddy. I have no observations to offer on the other clauses.

I am &c.,

R. W. D. MOIR,
Acting Government Agent.

Suggestions made by the Vannia of Koddiyar.

I.—Clause 5. The payment in money by cultivators is rather hard on them, but payment in kind is preferable.

II.—Clause 13. The tax ought to be collected in kind by a collector appointed by Government, is the case in other taxes, and such collections ought to be in the field during the threshing season.

"True copy"
R. MASSIE,
Assistant Government Agent.

The GOVERNMENT AGENT, Jaffna, to the Hon. the COLONIAL SECRETARY, Colombo.

Jaffna Kachcheri (Chavakachcheri),
11th December, 1878.

SIR,—I HAVE the honor to submit that I have, in accordance, with your instructions circulated the Tamil copies of the Queen's Advocate's speech on the Grain Ordinance, and of the Ordinance, amongst the people and have held meetings—

At Jaffna for the Jaffna Division	At Puttur for Valikamam East
At Sangaani for Valikamam West	At Point Pedro for Vadamarachchi
At Mallakam for Valikamam North	At Mattovil for Tenmarachchi

and annex for your information copies of my Diary entries and of two Telegrams addressed by me to you from Point Pedro.

As regards paddy lands, the people everywhere (except a small number in Tenmarachchi) were in favour of the Ordinance, but not so in regard to dry grain.

In Valikamam North, East, and West, there was no decided objection taken to the provisions of the Ordinance as regards dry grain,

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Commissioner.

The people of these divisions in general merely pointed out the difficulties that would be experienced in bringing the provisions of the Ordinance into operation; asked questions on certain points which I told them would be referred to Government, and then expressed a hope that they would not be left in a worse position than they are now in under the renting system.

In Vadamarachchi however, there was a decided and strong opposition (as I fully expected there would be in that division) to the Ordinance so far as it affected dry grain, and the people there said, and with good reasons as it appeared to me, that they preferred to continue under the renting system.

In Tenmarachchi there was also strong opposition to the Ordinance in regard to dry grain, and some objections were raised to it in reference to paddy, but I saw no force in them and told the people so.

I would beg again to urge that the question of the dry grain tax of the Northern Province be specially dealt with.

If the tax is to be continued, I do not see how any but the renting system can be applied to it without subjecting the poorer classes to annoyances quite as oppressive and harassing as those they are subjected to under the renting system.

I have, &c.,

W. C. TWYNAM,
Government Agent.

COPY of Telegram, dated 29th November, 1878, from the GOVERNMENT AGENT, Jaffna, to the Hon. the COLONIAL SECRETARY, Colombo.

YOUR telegram received by me here at Point Pedro.

Translations of Queen's Advocate's speech and abstract of Grain Ordinance only received on 14th, and immediately circulated.

Have held meetings at Jaffna, Sanganai, Mallakam, and Puttur; now at Point Pedro.

Chavakachcheri, on Tuesday next; Islands, Thursday.

People in general in favour of Ordinance, and compulsory commutation of paddy fields. Opposition chiefly from those concerned in purchasing rents.

Difficulty about dry grain—

1. In regard to cultivation of small patches in gardens with vegetables.
2. To occasional crops in betel and palmirah gardens grown in order to benefit the plantations and in pasture lands;
3. In regard to varago grown with paddy in commuted fields;
4. And in regard to dry grain in commuted fields after paddy is reaped.

Letter by post.

COPY of Telegram, dated 2nd December, 1878, from the GOVERNMENT AGENT, Jaffna, to the Hon. the COLONIAL SECRETARY, Colombo.

VERY strong opposition here in Vadamarachchi to proposed Grain Ordinance in regard to dry grain. People say they prefer renting system to new Ordinance as regards dry grain.

Impossible, in my opinion, to apply provisions of Ordinance to dry grain, except perhaps to varago grown in plains.

Ordinance agreed to as regards paddy.

I strongly urge Ordinance being made to apply only to paddy as regards Northern Province, leaving dry grain for further consideration, after enquiry and report by a Commission.

COPY OF THE DIARY.

Jaffna, 21st November, 1878.

Translation of Queen's Advocate's speech and abstract of the Ordinance read and explained.

About 200 people present.

I invited to ask questions or make remarks.

Sitter Nagapper comes forward and states: We wish the present system to be continued. Says: I represent a large body of those present.

No one however follows him.

Sitter Nagapper states: I have no paddy lands. I only possess champado lands in which dry grain is cultivated.

The people ask if dry grain grown in commuted paddy fields is to pay tax.

Sanganai, 22nd November, 1878.

About 1,000 people in attendance; speech and abstract of Ordinance read out.

Request is made that when there is a total failure of crops, the commutation may be remitted; also, the duty in cases of lands on which duty is paid.

Ampalavaner Saravanymuttu of Magiaputtiy (English name, Lyman), speaking on behalf of several people, states:—We agree to the principle of the grain duty, but we request that as regards commutation, the tax may be remitted in the event of a total failure of crop in consequence of flood or drought.

Anthonipilly Kaylar of Cheravelan states: We prefer to pay tythe as now for dry grain; but will commute for paddy.

May dry grain and varaku be grown in commuted field without grain duty being levied?

Request made that the rate of commutation may not be higher than what is paid now.

As regards paddy lands, the people appear to be in favour of the Ordinance, but there is certainly a feeling of uneasiness in regard to dry grain lands, concerning which the people say they leave the matter in the hands of Government and trust that their interests will be protected.

Mallakam, 23rd November, 1878.

About 1,000 present.

Speech and abstract of Ordinance read out.

Sinnattamby Tumer of Eveny asks if the whole land belonging to any person will be forfeited in the event of its being cultivated without due notice being given.

The 16th clause of the Ordinance is read out to him.

Asks what is to be done in regard to lands cultivated only once in ten years, as in the chompado. Is referred to clause regarding grain duty.

Vyramuttu Sinnatamby of Tellipali states: We cultivate lands with betel creepers which lasts seven years. We then put dry grain for one season then again betel creepers. Are we to pay for the land every year, or only for the one crop of dry grain.

The grain duty clauses are explained to him.

Kathiramer Aromogam of Punnaly cattovan (a renter) states: We will always pay in kind, we cannot pay in money.

Perumtamby Muroger of Eveny (also a renter) states: We wish the rents to be sold.

A voice in the crowd says: This man extorts half the crop when he is renter.

The same question is raised here as in Sangaai, as to whether dry grain and varago may be sown in lands commuted for paddy without any additional tax.

Question asked: If commutation is only to be made applicable to paddy lands, or may owners of dry grain lands commute?—Is told that all lands can be commuted for if the proprietors like.

Question: Are owners of redeemed lands to pay for dry grain grown on redeemed paddy lands?

The people are told that the question asked will be submitted to Government.

They are also told that I understand the feeling of the people to be in favour of the Ordinance as regards paddy lands, but that they have doubts about it in regard to dry grain.

The people in general answer in the affirmative.

Puttur, 27th November, 1878.

About 350 people in attendance.

Kovinther Moothatamby of Sirupitty states: We are all willing to have this Ordinance.

The speech and abstract having been read out—

Question asked: Are we to pay for varago grown on commuted lands?

Beg that the commutation may be made payable in July.

Vayramuttu Karthiguser of Neervaley states: We are in the habit of sowing dry grain in palmira and other gardens for the purpose of benefiting the plantations once in four or five years. In such years we shall have to pay. Are we to pay for the other years?

Commutation and grain duty are explained.

Is dry grain tax to be paid for redeemed lands?

Point Pedro, 29th November, 1878.

About 2,000 people in attendance.

Speech and Ordinance read out.

Sithamparanather Canther of Karavetty West states: We do not like the Ordinance; we wish the renting system to be kept up. I am a renter and cultivator.

Aromgattur Cannavathipilly of Ploly East states: We have not fully understood the Ordinance; we like the former course, viz., "the renting system."

Another one says: We do not like land tax. This is a land tax that is to be brought in by this law. Called out, states: My name is Pullyan Sinnatamby of Karavetty.

Murokar Kurumather of Ploly West states: I prefer the present system. I do not own paddy lands; I have only a few dry grain gardens—fifteen larchams.

Udaiyar of Kurolan Vathuri states: I can prove by books that Pullyan Sinnattamby and Sitter Canther or Sithamparanather Canther are regular renters. They are not representing the feelings of the people.

Mr. N. Mylvakanam, Proctor of Ploly East, Mr. Soprammanian of Ploly West, and Murokaser Kadiravalopilly of Valvetty, came forward as representing the people in general.

N. Mylvakanam states: I have read the Ordinance, and I believe the plan proposed in it to be preferable to the present system.

The other two gentlemen state the same.

The same question is raised here by Mr. Mylvakanam, as in Mallakam and in Puttoor, viz.; The levying of tax on dry grian grown occasionally in dwelling compounds and palmirah gardens. If a land be only cultivated once in three seasons, is the grain tax to be paid for the whole year?

Also, what is to be considered a crop—three-fold—is too low.

Sandyenar Sinnatampy of Thunnaly states: We are owners of dry grain lands. They are cultivated by poor people on rent. If this new law is brought into operation the tax will have to be paid in money by the cultivators. They cannot do this, and the cultivation of the land will be given up and we shall lose.

GRAIN TAX ORDINANCE.

CORRESPONDENCE.

Naraner Katheravalu, Notary of Thunnaly, an extensive landowner, states: I have no objection to the present Ordinance being brought into operation.

Kathertaser Vathiliar of Velvetty, also a large proprietor and occasionally a paddy renter, states: I have no objection when the times improve, but I object to paying grain duty when the crops fail.

Mylvakanam Kandyer of Karainavaye, also an extensive landholder, states: I agree with the proposed Ordinance. I wish it may come. I have paddy lands in Karanavay and the Vanni.

Kanther Mappanar of Varathupali, states: We have been given to understand that the object of this Ordinance is to raise the rate of commutation on us, by degrees, and we are also told that it is the intention of Government to sell all our lands that have not been cultivated for fourteen years.

Is told that these stories are entirely false, and that the object had in view by Government is to render the grain tax as light as possible to the people by doing away, if possible, with the renting system.

The majority of the people are not satisfied with the explanation given. They beg I will come and explain to them more fully the provisions of the Ordinance. I do so. They call out: We are opposed to the Ordinance as regards dry grain. The Ordinance will place us in a worse position than we are in now. We shall be subjected to false complaints of having cultivated lands without permission, and other annoyances. We cannot pay in money, and our land, cattle, and agricultural implements will be seized and sold for the recovery of the tax, as is now done in reference to the commutation and police assessment tax. I tell the people that I will submit what they say to Government.

Mattoril, 3rd December, 1878.

Over 3,000 people in attendance.

Speech and abstract of Grain Ordinance read out.

Tinger Valuider of Sathaly raises the same question as raised before regarding dry grain in paddy lands on which commutation is paid.

In some of our paddy lands we do not always cultivate paddy. Sometimes we carry on garden cultivation in them every three or four years.

High lands are apparently referred to.

Goes on to say: We used to cultivate Collu, Pavaru and paddy in palmyra lands. Asks, if they come under the Ordinance will they pay grain tax?

Is informed that they will have to pay.

Says, it would be better to give up cultivation in the lands under such circumstances.

Says that the Ordinance is a very good one in getting rid of the renters.

Says, we do not wish the rate.

One rupee and fifty cents. per bushel to be revised.

Murokar Cumber of Nunavil states: A large number are opposed to the Ordinance as regards dry grain.

The dry grain cultivators of Navetkuli are in favour of the Ordinance.

Sabanapar mudeli Tillyar of Mandovil says: We prefer the renting system in regard to dry grain.

Sangaiai, 11th December, 1878.

The ASSISTANT GOVERNMENT AGENT, Mannar, to the GOVERNMENT AGENT, Jaffna.

No. 13. Mannar Kachcheri, 15th January, 1878.

SIR,—With reference to your letter No. 434 of 15th November last, I have the honor to inform you that I distributed copies as requested in my district, but as the people seemed not to understand the Ordinance, I held a meeting in Mannar for the purpose of explaining its provisions. The people generally appeared to fully appreciate the advantages afforded them; but some few still said they preferred the old system of renting, for no better reason than that it had always been the custom.

One objection was raised, which I think is worth bringing to the notice of Government, viz., that in the Wanni Tattu, and throughout a great part of Musali and Manai there is practically no money. Dealings are carried on in paddy, which takes the place of coin as a medium of exchange. The inhabitants of these districts will have great difficulty in obtaining the coin necessary, even though they may have a sufficient quantity of paddy to pay their commutation in kind, and if they have to sell, traders will undoubtedly take advantage of this circumstance to lower the price of paddy.

This no doubt is a difficulty that will right itself in course of time as money becomes more common, but I fear considerable difficulty and loss will be experienced at first by the people of the above districts.

I am, &c.,

G. M. FOWLER,

Assistant Government Agent.

P.S.—This letter has been overlooked. It should have been sent on the 7th instant.

Mr. C. B. DUNUWILA, Dewa Nilame, to the Hon. the GOVERNMENT AGENT, Kandy.

Kandy, Dalada Maligawa,
12th November, 1878.

PROCEEDINGS of a Meeting of the Kandiyan Chiefs and a large number of headmen and others who are interested in paddy cultivation, held in pursuance of the Hon. the Government Agent's instructions, No. 11,466, dated 4th November, 1878, to consider the provisions of the draft of a proposed Ordinance entitled "The Grain Ordinance of 1878."

Present:

1 C. B. Dunuwille, Dewa Nilame
2 A. E. Paranagama, Police Magistrate
3 T. B. Pagabokke, President, Village Tribunal
4 M. B. Nugawelle, Ratemahatmeya of Udu-Nuwara
5 Nugawela Ratemahatmeya of Harispattu
6 J. R. Paranagama, Ratemahatmeya, Tumpane
7 J. B Halangoda, Ratemahatmeya of Pata Dumbara
8 T. B Pallipana, Ratemahatmeya of Udapalata
9 Rambukwelle, Ratemahatmeya, Udu Dumbara
10 L. B. Rambukwelle, Ratemahatmeya of Udu Balagama
11 L. B. Mutugalla, Basanayaka Nilame, Maha Dewala, Kandy
12 Udawita, Basanayaka Nilame, Kataragama Dewala
13 Punchirala, Korala of Medasiyapattu
14 Gangapalata Appuhamy, Korala
15 Kiri Banda, Korala of Kulugammana
16 Appuhamy, Gandahave Korale
17 Kuda Banda Kobbakadua, President, Udu Nuwara, and others.

Proposed by Mr. J. R. Paranagama, Ratemahatmeya, that Mr. Dunuwilla, Dewa Nilame, do take the chair.

Seconded by Mr. L. B. Halangoda, Ratemahatmeya.—*carried*

I.—This meeting regrets that the time at their command should have been so limited as not to enable them to give that careful consideration which this all-important question deserves.

II.—The meeting begs to express its thanks for the liberal spirit in which Government proposes to deal with the paddy cultivator in introducing this Ordinance and takes this opportunity of expressing its concurrence with the provisions of the Bill generally; but begs to submit the following modifications for the consideration of Government, with a view to further ameliorate the condition of the cultivator, as the present requirements of the Colony will not permit the abolishing of all food taxes, the continuance of which is undoubtedly a necessary evil.

III.—That in the time of the Kandiyan Government the cultivator had only to pay two measures of rice as tax for an extent of one pela of muddy land.

This payment had exempted him from any further taxation on high land. At present paddy fields in this Province, though taxed on an average of two bushels to a "pela" with the exorbitant rate of 1 rupee and 33 cents a bushel yet, this meeting regrets to find that the indulgence which the cultivator enjoyed under the Kandiyan Government, with respect to the exemption of high lands, is denied to him at present. Therefore the meeting would respectfully suggest to abolish the tax on hill-paddy altogether. Considering the labour bestowed upon, and the expenses incurred in, the cultivation of paddy, and the fluctuation of the weather, this meeting is of opinion that the present rate per bushel should be reduced to one rupee.

C. B. DUNUWILLE,
and 20 others.

The Assistant Government Agent, Matale, to the Hon. the Government Agent, Kandy.

No. D. 275. Matale, 13th November, 1878.

Sir,—In reply to your letter No. 583/11,466 of the 4th instant, I have the honor to report that I have circulated the printed translations of the Queen's Advocate's speech, and have caused meetings to be held by the Ratemahatmayas of my district.

The opinions expressed by native officials and influential natives at these meetings seem to be in favour of the provisions of the proposed Ordinances as it stands.

I have no remarks to offer on the subject.

I regret that the shortness of the time allowed me has prevented my replying to your letter within the time named by you.

I am, &c.,
H. L. MOYSEY,
Assistant Government Agent.

The Assistant Government Agent, Badulla, to the Hon. the Government Agent, Kandy.

Badulla Kachcheri,
No. 8[illegible]/577. 21st November, 1878.

Sir,—Referring to your letter No. 512/11,466 of the 4th instant, I have the honor to inform you that no objection has been laid before me to the Bill in question, the provisions of which I have circulated widely through the district.

I have, &c.,
Æ. A. KING,
Assistant Government Agent.

The Assistant Government Agent, Nuwara Eliya, to the Hon. the Government Agent, Kandy.

Nuwara Eliya Kachcheri,
No. 580. November, 1878.

Sir,—In reply to your letter No. 484/11,466 of the 4th instant, I have the honor to report that meetings were convened in the three divisions of this district regarding the collection of grain tax under the new Ordinance. They were composed of the principal landowners in the district, and were presided over by the Ratemahatmeyas. The Ordinance was explained to them, and they were asked to offer any suggestions or alterations, but the inhabitants were unanimously of opinion that no improvement could be made on the new Ordinance, and they were gratified with the concession made

GRAIN TAX ORDINANCE.

CORRESPONDENCE.

of not recovering tax from fields in years when crops were not grown. I refer to land owners who have commuted to pay tax annually for a certain period. The commutation system prevails universally in the Nuwara Eliya district.

I have, &c.,

(Signed) C. A. MURRAY,
Assistant Government Agent.

Anuradhapura Kachcheri,
7th November, 1878.

Present:

Emam, Wanniya of Tamankaduwa; Seni Tomby, Udayar of Tamankaduwa; Punchirala, Korala of Tamankaduwa.

The Wanniya states: On the whole I prefer the proposed Ordinance to the present renting system. I think it will be generally acceptable. I have no objection to urge to any part.

The Udayar says as crops are sometimes damaged by floods, he must talk to the people; he cannot give an answer now.

The Korala says he must talk to the people and then give an answer.

The Wanniya is requested to discuss the matter with the people and to report in a week.

Report from Wanniya not yet received. Will be sent when received.

Anuradhapura Kachcheri,
12th November, 1878.

Present:

The Ratemahatmayas of Hurulu and Nuwaragam Palata, Kalpe, Ulagalla, and Mahapotana Korala.

The Ratemahatmaya of Hurulu Palata states: In my opinion, and in that of the headmen and inhabitants generally, the present renting system is preferable to commutation or to a grain duty. Commutation was in force in this district formerly, and the inhabitants had the greatest difficulty in paying even the smallest sums, as money is exceedingly scarce in this Palata. We prefer the renting system even though we are a little troubled by the renters.

The Ratemahatmaya of Nuwaragam Palata concurs.

The Koralla are also of the same opinion.

Anuradhapura Kachcheri,
15th November, 1878.

Present:

Ratemahatmaya of Kalagam Palata, Koralla of Kalagam, Kiralowa, Maminiya, Undurawa, and Negampaha Korale.

Ratemahatmaya states: For my own part I prefer the system of commutation as explained in the new Ordinance. All the people I have spoken to prefer commutation, as there are not so many disputes as under the renting system, and their rights to the land are preserved in writing. The potane cultivators who get their water from rivers alone prefer the renting system.

Kiralowa, Maminiya, Undurawa, and Negampaha Koralla also say that the majority of the cultivators prefer commutation.

Kalagam Korala also prefers commutation. He has not been able to talk with the people about it recently, but one or two years ago people told him they preferred commutation.

REMARKS by the Government Agent of the North-Central Province on Draft of the Grain Ordinance, 1878.

I THINK it would be advisable to postpone the registration of land growing grain other than padi. The register should be confined to fields and owitas and potanas and any other land ordinarily cultivated with padi; unless it is intended, of which there is no indication in the Ordinance, to make a survey of all land registered, it will be a very laborious and uncertain work to attempt a register of land cultivated at intervals, say of seven, ten, or twelve years with various kinds of grain, and it will require great care to prevent the register from being used hereafter in a way prejudicial to the land rights of the Crown. A complete survey and register of all private lands is most desirable, but a register of land other than padi land without a survey would, I think, be a very dangerous experiment.

I would suggest that a rate per acre, or by the native measure of the district, be fixed for each district or parts of a district by the commissioners for the seven years as the rate to be recovered as grain duty on all unregistered land when cultivated. All that would have to be done would be to estimate the extent cultivated and to recover from the cultivator the grain duty on this extent.

JOHN F. DICKSON,
Government Agent.

Anuradhapura Kachcheri,
8th November, 1878.

The WANNIYA of Tamankaduwa to the GOVERNMENT AGENT of the North-Central Province.

No. 100. Trincomalee, 14th December, 1878

SIR,—WITH reference to your verbal order on the subject of the new Grain Tax Ordinance, I beg to report that the cultivators of Tamankaduwa approve the enforcement of that system.

I beg to remain, &c.,

S. H. EMAM,
Wanniya.

XXXVII.

CEYLON.

FINANCIAL STATEMENTS

LAID BEFORE THE LEGISLATIVE COUNCIL

DURING THE SESSION OF 1878.

COLOMBO:
PRINTED BY WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1878.

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I.—STATEMENT of the REVENUE and

REVENUE.

	Rs.	Cts.	Rs.	Cts.	£	s.	d.
Arrears of Revenue of former Years			398617	34	37870	7	6½
Revenue of the Current Year.							
CUSTOMS.							
Imports	3270869	95					
Royalty on Plumbago	48828	24					
Warehouse Rent	32588	83					
			3351787	2	314280	0	8
PORT AND HARBOUR DUES.							
Port Clearances	96040	94					
Boats and Moorings	1906	25					
Pilotage	25897	50					
			123844	69	11610	8	9¾
LAND SALES.							
Waste Lands	1550372	83½					
Cinnamon Gardens	610	36					
			1550983	19½	145404	13	5¾
LAND REVENUE.							
Paddy	1004389	95					
Fine Grain	53119	50					
Cinnamon	4148	45					
Gardens	11550	51					
Rent of Lands	8212	56					
Tunhowl Lands	—						
Royalty on Plumbago	140	0					
Proceeds sale of ditto	—						
Tythes redeemed	2887	91					
Tobacco plantations	4	0					
Cabook	138	55					
Incidental	3	0					
			1084566	43	101679	19	6½
RENTS, Exclusive of Lands.							
Bridges, Canals, &c.	465395	80					
Government Buildings	33723	58					
			439119	38	41167	8	10
STAMPS.							
General	1039405	48					
Postage	238886	87½					
Composition duty	60912	62					
			1332205	97½	124894	6	2½
TAXES.							
Assessment on Houses	—		36045	31½	3379	4	11½
POSTAGE.							
On Letters, &c.	—		14886	52	1395	12	2¾
LICENSES.							
Arrack and Toddy	2179037	80½					
Stills	9870	0					
Wholesale Dealers	1860	0					
Retail of Spirits	300	0					
Opium	1050	0					
Carriers	—						
Retail of Salt	—						
Marriages	—						
Chanks	2680	12					
Royalty on Elephants	200	0					
			2194997	92½	205781	1	1½
FINES AND FORFEITURES.							
Supreme Court, District Courts, Courts of Requests, and Police Courts	78668	15					
Government Agents	1228	93					
Other Departments	2619	9					
Petty receipts	—						
			82516	23	7735	17	11
Carried forward.			10,609,590	2	994,649	1	3½

EXPENDITURE for the Year 1877.

EXPENDITURE.

Establishments.	Salaries. Fixed. Rs	Cts.	Salaries. Provisional. Rs	Cts.	Allowances. Rs	Cts.	Contingencies. Rs	Cts.	Total. Rs	Cts.	£	s.	d.
CIVIL.													
His Excellency the Governor	79873	60	5634	64	...		486	0	85994	24			
Secretariat	110248	98	19183	44	...		39746	60	169174	2			
Treasury	30984	99	480	0	1762	48	920	16	34097	63			
Audit Office	35524	52	7364	52	..		4652	69	47541	73			
PROVINCIAL AGENCIES.													
Western Province	82871	21	34025	73	810	0	3714	71½	122321	65½			
North-Western Province	55008	24	22345	85	300	0	429	64	78083	73			
Southern do.	70593	41	7654	2	180	0	1733	63	80161	6			
Eastern do.	48187	18	6645	61	...		588	27½	55421	6½			
Northern do.	71692	98	8497	68	...		3228	41	83359	7			
Central do.	86722	58	40073	72	...		3304	97	130101	27			
North-Central do.	15588	0	15853	88	...		719	94	32161	82			
Public Works Department	195565	64	136269	4	1880	87	19951	85	353667	40			
Survey Department	67055	96	186842	52	456	25	21015	17	274869	90			
CUSTOMS DEPARTMENT.													
Western and North-Western Provinces	59186	1	21654	31	500	0	4809	29	86149	61			
Southern Province	21791	84	2844	50	...		1423	38	26059	72			
Eastern do.	6356	40	344	10	...		251	98	6952	48			
Northern do.	17895	31	1803	4	...		989	50	20687	85			
HARBOUR DEPARTMENT.													
Master Attendant, Colombo	7074	99	7914	27	1000	50	2720	81	18710	57			
Do. Galle	5490	0	11401	70	...		4915	10	21806	80			
Do. Trincomalee	400	0	6092	0	...		4478	23	10970	23			
POST OFFICES	44760	56	57207	48	1050	0	32115	98	135134	2			
ROYAL BOTANIC GARDEN	7394	92	15894	25	...		887	19	24176	86			
JUDICIAL.													
Supreme Court, Chief Justice	22856	54	...		...		...		22856	54			
Senior and Junior Justices	39979	68	...		...		...		39979	68			
Registry, Supreme Court	20404	0	300	0	...		107	72	20811	72			
Queen's Advocate and Deputies to the Queen's Advocate	50889	33	7195	0	...		443	24	58527	57			
DISTRICT COURTS.													
Western Province.													
Colombo	21149	50	1254	16	...		138	23	22541	89			
Kalutara	13400	27	1246	11	...		201	25	14847	63			
Kégalla	8490	24	1600	0	...		125	26	10215	50			
Negombo	10139	64	1579	80	...		50	0	11769	44			
Ratnapura	9774	41	1382	72	...		132	41	11286	34			
North-Western Province.													
Chilaw	8895	27	834	33	...		27	0	8956	60			
Kurunégala	16601	0	1570	0	...		883	2	19054	2			
Southern Province.													
Galle	19140	0	1675	0	...		520	81	20735	81			
Mátara	10608	71	970	0	...		125	0	11703	71			
Tangalla	8870	64	200	0	...		110	0	9180	64			
Itinerating District Judge	...		5322	82	...		...		5322	82			
Eastern Province.													
Batticaloa	11739	96	1236	23	...		208	77	13184	96			
Trincomalee	3215	0	245	0	...		47	31	3507	31			
Northern Province.													
Jáffna	14460	0	570	0	...		231	98	15261	98			
Mannár	2633	13	478	66	...		85	45	3192	24			
Mullaittivu	1770	0	220	0	...		128	92	2118	92			
Central Province.													
Badulla	11295	72	299	88	...		164	80	11760	40			
Kandy	20350	0	1500	0	...		111	38	21961	38			
North-Central Province.													
Anuradhapura	2487	32	318	41	...		133	23	2938	96			
COURT OF REQUESTS AND POLICE COURTS.													
Western Province.													
Avisawela and Pasyala	6239	76	2139	84	...		118	12	8497	72			
Carried forward	1454789	14	647909	26	7940	10	157477	41	2268115	91			...

REVENUE—*continued.*

	Rs	Cts.	Rs	Cts.	£	s.	d.
Brought forward	—		10699590	2	994642	1	3½
SALE OF GOVERNMENT PROPERTY.							
Salt	840749	8					
Arrack and Rum	6792	16					
Colonial Stores	815003	55					
Timber	88122	16½					
Weights and Measures	2654	62					
Produce of Botanic Garden	11455	9					
Unserviceable Stores	6280	82					
Crops on Crown Lands	3257	16					
Dolly Horses and Elephants	551	0					
Royalty on Coral Stones	118	12					
Sundries	1983	50					
			1774967	26½	166403	3	7½
MISCELLANEOUS.							
Deficiency of Troops	—						
Discount on Bills	—						
Surcharges, &c.	218438	93					
Subscription to Widows' Pension Fund	247	21					
Pioneer Contribution	10397	44					
Unclaimed Deposits	11982	23					
Incidental	34594	8¾					
			270659	89¾	25374	7	3¼
GOVERNMENT VESSELS	—		37983	40	3560	18	10½
REIMBURSEMENTS.							
Government Gazettes, &c.	5890	10					
Cost of Police within Municipalities	97695	33					
Hospital Stoppages	691	89					
Survey Fees	70081	34½					
School Fees	22886	99					
School Books, &c	4903	84					
Prison Labour	22911	89					
Maintenance of Prisoners in Jails	4909	22					
Refund of Civil Hospital Expenses	10901	81½					
Passage Money of Immigrant Coolies	34179	10					
Assessment Tax	1865	99					
Value of Tools lost	5317	43					
Collection at Cemeteries	4828	75					
Irrigation	28663	56½					
Fees, Medical College	—						
Incidental	31421	16					
Sale of Seed Paddy	—						
			347248	21½	32554	10	5
INTEREST.							
On Loan Board Funds	4786	76					
On Arrears of Revenue	20091	82					
On Investments	119896	89					
			144775	47	13572	14	0
SPECIAL RECEIPTS.							
Fees on Title Deeds	9010	30½					
Inventions Ordinance, 1859	—						
Registration Fees	—						
Fees on Thombo Extracts	1	49					
Incidental	25	32					
			9037	11½	847	4	7
PEARL FISHERY	—		190337	78	17844	3	4
RAILWAY RECEIPTS.	—		3616404	4	339037	17	7
RECEIPTS BY THE CROWN AGENTS, LONDON.							
Incidental Receipts	867	47					
Subscription to Widows' Pension Fund	1642	66					
Interest on Investments	22878	34					
			25388	47	2381	8	4½
Carried forward			17026191	67	1596205	9	4¾

EXPENDITURE—*continued.*

	Salaries. Fixed. Rs.	Cts.	Salaries. Provisional. Rs.	Cts.	Allowances. Rs.	Cts.	Contingencies. Rs.	Cts.	Total. Rs.	Cts.	£	s.	d.
Brought forward...	1454789	14	647909	26	7940	10	157477	41	2268115	91			
COURTS OF REQUESTS AND POLICE COURTS.													
WESTERN PROVINCE.													
Colombo	21289	71	1697	0	...		402	5	23388	76			
Kalutara	1620	0	3474	56	...		49	75	5134	31			
Panadure	4539	84	933	16	...		91	50	5564	50			
NORTH-WESTERN PROVINCE.													
Kalpitiya	5283	88	91	67	...		..		5375	5			
Kurunegala	.		4639	92	...		73	35	4713	27			
Puttalam	2340	0	200	0	...		58	46	2598	46			
SOUTHERN PROVINCE.													
Talaputiya	6459	94	100	0	...		58	33	6618	27			
Galle	9840	0	900	1	...		171	50	10911	51			
Hambantota	1820	0	200	0	...		3	0	2023	0			
Matara	4848	34	1650	0	...		114	25	6612	59			
EASTERN PROVINCE													
Batticaloa	....		944	17	...		...		914	17			
NORTHERN PROVINCE.													
Chavakacheri	1590	83	361	67	...		123	0	2075	50			
Jaffna	6520	0	1130	0	...		155	79	7805	79			
Kayts	4903	36	1330	0	...		80	50	6303	86			
Mullaikam	...		870	0	...		169	0	1039	0			
Point Pedro	5620	0	1270	0	...		119	25	7009	25			
CENTRAL PROVINCE.													
Dambula	313	92	1979	88	...		82	34	2412	14			
Galagedara	6559	80	1199	88	...		30	0	7789	68			
Gampola	6449	0	560	0	...		143	43	7143	43			
Nawalapitiya	1020	4	5060	4	...		11	79	6091	87			
Haldummulla	1860	0	200	0	...		15	0	2075	0			
Kandy	11225	0	420	0	...		174	9	11819	9			
Matale	2290	0	4407	40	...		16	52	6713	92			
Nuwara Eliya and Maturata	1200	0	1410	0	...		59	75	2669	75			
Panwila, Urugala, and Passelawa	800	0	880	0	...		122	0	1802	0			
Dikoya	...		750	0	...		49	50	799	50			
REGISTRATION DEPARTMENT	68917	2	9584	67	41295	75	6913	71	126711	15			
FISCALS.													
Western Province	30094	0	11480	35	...		2253	0	43827	35			
North-Western Province	9381	81	8801	93	...		654	22	18837	46			
Southern Province	18803	46	7502	96	...		5759	37	32065	79			
Eastern Province	6328	60	1198	34	...		530	95	8057	89			
Northern Province	12725	46	9147	0	.		997	33	23169	79			
Central Province	23593	85	13826	6	...		339	43	37759	34			
North-Central Province	1436	32	1386	75	...		401	97	3225	4			
LOAN BOARD	5272	22	...		.		100	0	5372	22			
ECCLESIASTICAL	86686	61	2310	97	9775	16	...		98772	74			
Director of Public Instruction	39532	20	164548	79	..		.		204080	99			
Medical Department	99183	8	91265	56	8695	0	68430	91	267574	55			
Police Department	23500	0	412316	27	13335	62	4638	15	453820	4			
Inspector-General of Prisons	10871	75	1249	92	..		218	50	12340	17			
Superintendent, Convict Establishments	16357	69	43792	56	...		7099	50	67249	75			
Colonial Store	24962	88	1050	0	...		...		26012	88			
Ceylon Government Railway	...		404095	54	23001	66	57789	1	484886	21			
Agent, Colonial Steamer 'Serendib'	.		22014	93	4438	14	...		26453	7			
Director, Museum	...		16621	57	...		7835	76	24457	33			
Crown Agents	...		4266	64	1533	32	...		5599	96			
TOTAL... Rs.	2040855	75	1911052	43	109814	75	323810	37	4385533	30			
£	191330	4	179161	3	10295	2	30357	4	411143	14	11		

REVENUE—*continued.*

	Rs.	Cts.	£	s.	d.
Brought forward...	17023191	67	596 205	9	4½
Carried forward ...	17026191	67	596205	9	4½

EXPENDITURE—*continued.*

Services, exclusive of Establishments.	Rs.	Cts.	Rs.	Cts.	£	s.	d.
Brought forward...	..		4885533	20	411148	14	11¾
PENSIONS AND RETIRED ALLOWANCES.							
Paid in the Colony	156797	8					
Do. England	267803	93					
Do. India	27028	28					
			451629	29	42340	4	11
REVENUE SERVICES.							
Salt	124878	89					
Cinnamon	503	86					
Grain	49164	34					
Arrack	189	63					
Pearl Fishery	47025	46					
Timber	83466	29					
Assessment	25112	5					
Law Expenses	2103	40					
Commission on stamps sold	126	95					
Do. on collections of Hospital bills	87	22					
Licenses	2961	7					
Toll	56	28					
Refund of water-rates	918	25					
			336533	78	31550	0	10
ADMINISTRATION OF JUSTICE.							
Queen's Advocate	1497	7					
Supreme Court	15847	15					
District and Police Courts	5601	99					
Agents of Provinces	2837	88½					
Fiscals	61129	13					
			86913	22½	8148	2	8½
ECCLESIASTICAL	...		3000	0	281	5	0
CHARITABLE ALLOWANCES.							
Agent, Western Province	15288	56					
North-Western Province	1677	79					
Southern do.	9697	53					
Eastern do.	4292	8					
Northern do.	7501	39					
Central do.	3508	50					
North-Central do.	152	0					
			42117	85	3948	10	11½
EDUCATION.							
In Ceylon	14153	40					
In England	174183	16					
			188336	56	17656	11	0½
HOSPITALS.							
Treasurer	1257	12					
Agent, Western Province	137577	44					
North-Western Province	27635	89					
Southern do.	39020	97					
Eastern do.	12204	32					
Northern do.	116859	44					
Central do.	88963	94					
North-Central do.	3997	30					
			424496	42	39796	10	9½
POLICE AND GAOLS.							
Agents of Provinces	3355	61					
District Judges and Police Magistrates	379	99					
Inspector-General of Police	9318	24					
Superintendent of Convict Establishments	137376	61					
Fiscal, Western Province	59796	10					
Do. North-Western Province	18540	73					
Do. Southern do.	40006	48					
Do. Eastern do.	6506	38					
Do. Northern do.	47083	35					
Do. Central do.	52894	5					
Do. North-Central do.	2882	87					
Straits Government	4507	75					
			382648	16	35873	5	8¾
RENT.							
Director of Public Works	1020	0					
Customs Department	294	0					
Postmaster-General	5555	0					
Registrar-General	1780	0					
Agents of Provinces	3476	50					
District Judges and Police Magistrates	983	75					
Director of Public Instruction	4339	85					
Principal Civil Medical Officer	1700	0					
Inspector-General of Police	18008	82					
Survey Department	404	33					
Fiscals	973	0					
			86530	25	3424	14	2½
TRANSPORT.							
His Excellency the Governor	6927	60					
Secretariat	1822	40					
Treasurer	18494	55					
Audit Office	1016	10					
Public Works Department	65464	64					
Survey Department	11382	85					
Director of Royal Botanic Gardens	814	64					
Customs Department	1706	20					
Carried forward ...	107,628	98	6,337,738	88½	594,163	3¾	

REVENUE—*continued.*

	Rs.	Cts.	£	s.	d.
Brought forward...	17026191	67	1596205	9	4¼
TOTAL . . Rs	17026191	67	£1596205	9	4¼

CEYLON GOVERNMENT RAILWAY.

REVENUE, 1877.—Rs. 3,616,404 and 4 cents.

	£	s.	d.	Rs.	Cts.
Main Line, Colombo to Kandy ..	284,058	14	7¼	3,029,959	80
Branch Line to Nawalapitiya ..	37,841	4	8	403,639	82
South Line, Colombo to Panadure ..	13,487	0	8¼	143,861	70
Breakwater Trains ...	3,650	17	7¼	38,942	72
	339,037	17	7	3,616,404	4

EXPENDITURE, 1877.—Rs. 2,075,070 and 52 cents.

	£	s.	d.	Rs.	Cts.
Main Line to Kandy, working expenses	91,074	9	6	971,461	6
Branch Line to Nawalapitiya, working expenses	18,385	7	10	196,110	84
South Line to Panadure, working expenses	9,922	11	5	105,840	76
Breakwater Trains ..	2,115	12	8¾	22,566	79
Additional Accommodation .	4,599	15	9	49,064	40
New Works	10,500	0	0	112,000	0
Main Line, interest and sinking fund	57,940	0	0	618,026	67
	194,537	17	2¾	2,075,070	52

W. H. RAVENSCROFT,
Auditor-General.

EXPENDITURE—*continued.*

Services, exclusive of Establishments.		Rs.	Cts.	Rs.	Cts.	£	s.	d.
TRANSPORT.—*contd.*	*Brought forward* ...	107628	98	6387738	83½	594163	0	3¾
Harbour Department		265	0					
Post Office		2750	0					
Director, Colombo Museum		2092	83					
Queen's Advocate		658	91					
District Judges and Police Magistrates		13172	8½					
Registration Department		1420	78					
Loan Board		42	0					
Agents of Provinces		61084	36½					
Medical Department		11514	97					
Director of Public Instruction		17824	44					
Police Department		41242	78					
Prisons Department		1667	4					
Superintendent, Convict Establishments		728	0					
Fiscals		3360	97					
				268447	90	25166	19	9¾
CONVEYANCE OF MAILS		...		115249	51	10804	12	10
WORKS AND BUILDINGS	New Works	215995	82					
	Repairs	281747	31½					
				497743	13½	46663	8	4½
ROADS, STREETS, AND BRIDGES	New Roads	706473	4					
	Repairs of Roads	2044163	99¾					
	Departmental Charges	209253	0¾					
MISCELLANEOUS.				2959890	4½	277489	13	10
Treasurer		191509	5					
Survey Department		79166	62					
Customs Department		1436	13					
Director of Royal Botanic Gardens		3483	74					
Post Office		78000	0					
Police Department		33675	89					
Agent, Western Province		32562	22					
" North-Western Province		15344	19					
" Southern do.		13463	72					
" Eastern do.		5995	24					
" Northern do.		13356	56					
" Central do.		27349	58					
" North-Central do.		11161	58					
Telegraph Department		125	0					
Crown Agents		33752	29					
Agents, India		1578	1					
				541459	82	50761	17	2
INTEREST.								
Treasurer		6317	7					
Crown Agents		84048	0					
				90365	7	8471	14	4
COLONIAL STORE.								
In the Colony		293213	28					
In England		681623	75					
In India		15269	17					
				990106	20	92822	9	1½
CONTRIBUTION TOWARDS MILITARY EXPENDITURE		...		1239909	96	116249	19	11
GOVERNMENT VESSELS		...		80158	18	7514	16	7½
REFUND OF DUTIES, DRAWBACKS, &c.		...		31410	70	2944	16	0¾
LANDS TAKEN FOR GOVERNMENT PURPOSES		...		22751	37	2132	18	9¾
IMMIGRATION		.		136334	38	12781	6	11½
RAILWAY SERVICES.								
Contribution to Sinking Fund		618026	67					
Railway Working Expenses		972157	64					
				1590184	31	149079	15	7
Railway Construction		...		429000	0	40218	15	0
				15330889	41½	1437266	3	10¾
	Excess of Revenue over Expenditure ...			1695352	25½	158939	5	5¾
	TOTAL ...			17026191	67	1596205	9	4½

		Surplus Funds.		Unexpended Balances.		Total.		£	s.	d.
		Rs.	Cts.	Rs.	Cts.	Rs.	Cts.			
Works and Buildings ...	New Works ...	...		159101	4½	159101	4½	14915	14	5½
	Repairs ..	...		22600	48½	22600	48½	2127	4	8
Roads, Streets, and Bridges	New Roads ...	...		396690	44	396690	44	37189	14	7
	Repairs of Roads ...	...		281020	44	281020	44	26315	13	4
	Departmental Charges ...	...		38656	37	38656	37	3624	0	8½
Railway Construction ...	... ...	1200000	0	...		1200000	0	112500	0	0
		1200000	0	898158	78	2098158	78	196702	7	9

Audit Office.
Colombo, 12th June, 1878.

W. H. RAVENSCROFT,
Controller of Revenue.

II.—COMPARATIVE STATEMENT OF THE REVENUE OF CEYLON FOR THE YEARS 1876 AND 1877.

	Revenue of 1876.		Revenue of 1877.		Increase.		Decrease.	
	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.
1.—ARREARS OF REVENUE of former years	384070	65¾	398617	34	14546	68¼	—	
2.—CUSTOMS.								
Imports, &c.	2951767	1½	3303458	78	351691	76½	—	
Royalty on Plumbago	57802	14	48328	24	—		9473	90
3.—PORT AND HARBOUR DUES.								
Port Clearances	89366	27	96040	94	6674	67	—	
Boats and Moorings	1532	50	1906	25	373	75	—	
Pilotage	20980	50	25897	50	4917	0	—	
4.—LAND SALES.								
Waste Lands	869838	20	1550372	83½	680534	63½	—	
Cinnamon Gardens	—		610	36	610	36	—	
5.—LAND REVENUE.								
Paddy	802581	40½	1004389	95	201808	54½	—	
Fine Grain	60270	65	53119	50	—		7151	15
Gardens	12504	78	11550	51	—		954	27
Tythes redeemed	743	80	2887	91	2144	11	—	
Rent of Lands	9842	0	8212	56	—		1629	44
Royalty on Plumbago	220	0	140	0	—		80	0
Proceeds sale of Plumbago	475	71	—		—		475	71
Cinnamon	7162	58	4148	45	—		3014	13
Tobacco Plantations	6	0	4	0	—		2	0
Cabook Stones	42	36	130	55	88	19	—	
Incidental	6	0	3	0	—		3	0
6.—RENTS, EXCLUSIVE OF LANDS.								
Bridges, Canals, &c.	408337	41	405395	80	—		2941	61
Government Buildings	25594	83	33723	58	8128	75	—	
7.—LICENSES.								
Arrack, Rum, and Toddy	2163958	76½	2179037	80½	15079	4	—	
Stills	10410	0	9870	0	—		540	0
Wholesale dealers in Arrack	1230	0	1860	0	630	0	—	
Retail of Spirits	—		300	0	300	0	—	
Opium	840	0	1050	0	210	0	—	
Chanks	1873	16	2680	12	806	96	—	
Royalty on Elephants	600	0	200	0	—		400	0
8.—STAMPS.								
General	1007049	62	1032406	48	25356	86	—	
Postage	242505	96½	238886	87½	—		3619	9
Composition Duty on Bank Notes	42498	62	60912	62	18414	0	—	
9.—TAXES.								
Assessment on Houses	39708	41	36045	31½	—		3663	9½
10.—POSTAGE.								
On Letters, Newspapers, &c.	13967	18	14886	52	919	34	—	
11.—FINES AND FORFEITURES.								
Supreme, District, and Police Courts	83375	31	78668	15	—		4707	16
Government Agents	1094	37½	1228	99	134	61½	—	
Other Departments	3462	0½	2619	9	—		842	91½
Petty Receipts	201	83	—		—		201	83
12.—GOVERNMENT VESSELS	54704	54	37988	40	—		16721	14
Carried forward...	9370624	58¾	10647573	42	1333369	27¼	56420	44

	Revenue of 1876.		Revenue of 1877.		Increase.		Decrease.	
	Rs	Cts.	Rs	Cts.	Rs	Cts.	Rs	Cts.
Brought forward ...	9370624	58¾	10647573	42	1333369	27¼	56420	44
13.—SALE OF GOVERNMENT PROPERTY.								
Salt - - -	784816	43	840749	8	55932	65	—	
Arrack and Rum - -	152	10	6792	16	6640	6	—	
Colonial Stores - -	666565	58	815003	55	148337	97	—	
Timber - - -	81711	25	86122	16¼	4410	91¼	—	
Weights and Measures - -	4153	35½	2654	62	—		1498	73½
Produce of Botanic Gardens -	18205	78	11455	9	—		6750	69
Unserviceable Stores - -	7496	40½	6280	82	—		1215	58½
Crops on Crown Lands - -	2954	25	3257	16	302	91	—	
Delft Horses and Elephants -	—		551	0	551	0	—	
Royalty on Coral Stone - -	115	4	118	12	3	8	—	
Sundries - - -	2638	73	1983	50	—		655	23
14.—REIMBURSEMENTS.								
Government Gazette - -	5634	20	5990	10	355	90	—	
Cost of Police within Municipalities -	94037	6	97695	33	3658	27	—	
Hospital Stoppages - -	293	31	691	89	398	58	—	
Survey Fees - -	66044	52	70081	54½	4037	2½	—	
School Fees, Books, &c. - -	28137	41½	27790	83	—		346	58½
Value of Prison Labour - -	33810	56	22911	89	—		10898	67
Maintenance of Prisoners in Jails -	4771	55	4909	22	137	67	—	
Refund of Civil Hospital expenses -	8793	83½	10901	81½	2107	98	—	
Passage Money of Immigrant Coolies -	32431	75	34179	10	1747	35	—	
Assessment Tax - -	677	31	1865	99	1188	68	—	
Value of Tools lost - -	942	48	5317	43	4374	95	—	
Collections at General Cemeteries -	3350	73	4828	75	1478	2	—	
Re-payment of expenses incurred on Irrigation Works - -	26575	77¾	28663	16½	2087	38¾	—	
Incidental - - -	38241	18	31421	16	—		6820	2
15.—MISCELLANEOUS.								
Over-payments recovered -	189332	50	213438	93	24106	43	—	
Subscription to Widows' Pension Fund	247	21	247	21	—		—	
Contribution to Pioneers - -	11456	32	10397	44	—		1058	88
Incidental receipts - -	27511	4½	34594	8¾	7083	4¼	—	
Unclaimed Deposits - -	9323	20	11982	23	2659	3	—	
16.—INTEREST.								
On Loan Board Funds - -	30454	37	4786	76	—		25667	61
On Arrears of Revenue - -	14223	98¼	20091	82	5867	83¾	—	
On Investments - -	94508	28	119896	89	25388	61	—	
17.—PEARL FISHERY - -	—		190337	78	190337	78	—	
18.—SPECIAL RECEIPTS.								
Fees on Title Deeds - -	7296	34	9010	30½	1713	96½	—	
Fee on Thombo Extracts - -	—		1	49	1	49	—	
Incidental Receipts - -	50	95	25	32	—		25	63
19.— RAILWAY RECEIPTS -	2983142	99	3616404	4	633261	5	—	
20.—RECEIPTS BY CROWN AGENTS.								
Subscription to Widows' Pension Fund -	1898	67	1642	66	—		256	1
Interest on Investments - -	22924	99	22878	34	—		46	65
Incidental Receipts - - -	489	98	667	47	177	49	—	
Rs	14676136	1¼	17026191	67	2461716	39¼	111660	73½
£	1375887 15 0¼		1596205 9 4½					
Deduct Decrease Rs					111660	73½		
Nett Increase .. Rs					2350055	65¾		
£					220317 14 4½			

REMARKS.

No. 1. ARREARS OF REVENUE.—The increase is owing to greater vigilance exercised in the collection of Arrears due, more particularly in the Western Province.

" 2. CUSTOMS.—The increase is attributable to the larger importation of grain in 1877 than in former years, thus giving an increased revenue of Rs. 269,540 on that item alone. The importation of rice in 1877 amounted to 6,572,704 bushels, whilst that of the preceding year was only 5,744,581 bushels.

" 3. PORT AND HARBOUR DUES.—The expansion of trade accounts for the increased receipts under this head. The tonnage of vessels entered Inwards and Outwards in 1877, was much larger than that of the preceding year, viz.:—

	Tons.		Tons.
1876, Inwards,	1,171,205	1876, Outwards,	1,153,319
1877, do.	1,296,987	1877, do.	1,205,657

" 4. LAND SALES.—This should be considered an extraordinary revenue, and is of course dependent upon the extent of land sold during the year and the high prices realized. The Central Province has chiefly contributed to swell the revenue under this head by extensive sales of lands adapted for coffee cultivation.

" 5. LAND REVENUE.—The superior harvests in the Western and North-Western Provinces, added to the high price of imported grain caused by the famine in India, raised the revenue from paddy to a larger sum than that realized in the preceding year. The decrease in fine grain is caused by the discouragement given to chena cultivation.

" 6. RENTS, EXCLUSIVE OF LANDS.—The decrease on the item of bridges, canals, &c., is so small as to hardly require comment; the increase on the other item is due to the rent on certain buildings due for 1876 having been recovered in 1877.

" 7. LICENSES.—The increase is chiefly on arrack and toddy, but the amount is not so large as to call for any special remark. Had the state of the country been more favourable, principally in the Northern and North-Central Provinces, where much distress has been felt owing to drought and consequent loss of crop, the revenue of the year under this head would have compared even more favourably with that of any preceding year.

" 8. STAMPS.—The increase in receipts from general stamps is chiefly in the Western and Central Provinces, indicating the expansion of trade and growing prosperity of these Provinces. The reduction in receipts from postage stamps is partially made up by the increase in cash payments made on letters posted and brought to credit under the head "Postage;" but, on the whole, the reduction may be attributed to the Colony having joined the Postal Union, which reduced considerably the rates of postage for letters to England and other countries.

" 9. TAXES.—There was some difficulty experienced in the collection of the Assessment Tax for 1877; hence the decrease. The attention of the Government Agents has been called to this delay.

" 10. POSTAGE.—There has been a regular falling off in this item of receipts for some years back; the present increase may therefore be attributed to the difficulty of obtaining, in some remote districts, postage stamps, and also to the fact that the letters which reached the Colony in 1877 were insufficiently stamped—the difference having been recovered in cash.

" 11. FINES AND FORFEITURES.—The decrease under this head of receipt may be attributed to the suppression of chena cultivation, under which seizures of crops were frequently made, and also to the absence of the hitherto frequent confiscation of timber, owing to the appointment of Foresters.

" 12. GOVERNMENT VESSELS.—The decrease under this head is consequent on the Colonial Steamer "Serendib" having been under repairs in Bombay for several months.

" 13. SALE OF GOVERNMENT PROPERTY.—The receipts from salt compare favourably with those of the preceding year. The increase is entirely in the North-Western Province, a large number of vessels having called for salt in 1877. The increase from Colonial Store and from timber is caused by larger demands for stores, &c., required for works in progress in 1877. The other items are of a fluctuating nature.

" 14. REIMBURSEMENTS.—The rise in Survey fees is ascribed to the larger extent of land brought to the market for sale. The decrease in value of prison labour is only apparent, as the cost of convicts employed on Breakwater works was placed to the credit of the cost of construction of the Mahara Quarry Prisons, instead of as formerly credited to the General Revenue. The other items do not call for any observations.

" 15. MISCELLANEOUS.—These receipts are of such a fluctuating nature that no special reason can be assigned for any increase or decrease.

" 16. INTEREST.—The increase under the head of interest on arrears of revenue is due to the failure of renters to pay up their instalments in due time. The increase of interest on local investments is due to a larger amount having been invested.

" 17. PEARL FISHERY.—This receipt is the result of the fishery at Aripu, which took place early in the year.

" 19. RAILWAY RECEIPTS.—The increase is principally caused by the heavy traffic on the Main and Nawalapitiya Lines, also by the opening of the first section of the Kalutara railway, which promises to be a remunerative undertaking.

Audit Office,
Colombo, 12th June, 1878.

W. H. RAVENSCROFT,
Auditor-General and Controller of Revenue.

III.—COMPARATIVE STATEMENT OF THE EXPENDITURE OF THE COLONY OF CEYLON FOR THE YEARS 1876 AND 1877.

		Expenditure of 1876.		Expenditure of 1877.		Increase.		Decrease.	
	ESTABLISHMENTS; INCLUDING FIXED AND PROVISIONAL SALARIES, ALLOWANCES, AND CONTINGENCIES.								
	CIVIL ESTABLISHMENTS.	Rs	Cts.	Rs	Cts.	Rs	Cts.	Rs	Cts.
1	His Excellency the Governor -	87241	40	85994	24	—		1247	16
2	Secretariat - -	172132	69	169174	2	—		2958	67
3	Treasury - -	32005	49	34097	63	2092	14	—	
4	Audit Office - -	42311	83	47541	73	5229	90	—	
	PROVINCIAL AGENCIES.								
5	Western Province - -	120503	87	122321	67½	1817	78½	—	
6	North-Western Province - -	72987	84	78083	73	5995	89	—	
7	Southern do. - -	79872	6	80161	6	289	0	—	
8	Eastern do. - -	58691	45	55421	6½	—		3270	38½
9	Northern do. - -	81492	83	83359	7	1866	24	—	
10	Central do. - -	119323	76	130101	27	10777	51	—	
11	North-Central do. - -	26981	6	32161	82	5180	76	—	
12	Public Works Department -	348303	74	353667	40	5363	66	—	
13	Survey Department - -	226956	0	274869	90	47913	90	—	
14	Customs Department - -	140066	82½	139849	66	—		217	16½
15	Harbour Department - -	48995	60	51487	60	2492	0	—	
16	Post Offices - - -	121040	32½	135434	2	14393	69½	—	
17	Royal Botanic Gardens - -	24170	65	24176	36	5	71	—	
	JUDICIAL ESTABLISHMENTS.								
18	Supreme Court Judges - -	65750	22	62836	22	—		2914	0
19	Queen's Advocate and Deputies -	53911	91	58527	57	4615	66	—	
20	Registrar, Supreme Court -	21844	27	20811	72	—		1032	55
	DISTRICT COURTS, POLICE COURTS, AND COURTS OF REQUESTS.								
21	Western Province - -	113918	42	118578	81	4660	39	—	
22	North-Western Province - -	37304	93	40697	40	3392	47	—	
23	Southern do. -	66175	49	67785	53	1610	4	—	
24	Eastern do. -	17143	15	17636	44	493	29	—	
25	Northern do. -	45792	78	44806	54	—		986	24
26	Central do. -	84186	90	83038	16	—		1148	74
27	North Central do. -	3149	65	2938	96	—		210	69
28	Registration Department -	144145	81	126711	15	—		17434	66
	FISCALS.								
29	Western Province - -	43062	74	43827	35	764	61	—	
30	North-Western Province - -	16671	43½	18837	46	2166	2½	—	
31	Southern do. - -	31097	41	32065	79	968	38	—	
32	Eastern do. - -	7519	36	8057	89	538	53	—	
33	Northern do. - -	23468	47	23169	79	—		298	68
34	Central do. - -	36652	94	37459	34	806	40	—	
35	North-Central do. - -	3038	63	3225	4	186	41	—	
36	Loan Board - - -	5318	66	5372	22	53	56	—	
37	Ecclesiastical Establishments -	97051	15	98772	74	1721	59	—	
38	Director of Public Instruction -	192607	36	204080	99	11473	63	—	
39	Medical Department - -	248689	38	267574	55	18885	17	—	
40	Police Department - -	437449	15	453820	4	16370	89	—	
41	Prisons Department - -	12653	8	12340	17	—		312	91
42	Convict Establishments - -	53456	45	67249	75	13793	30	—	
43	Colonial Store - -	25834	72	26012	88	178	16	—	
44	Ceylon Government Railway -	408613	72	484886	21	76272	49	—	
45	Agent, Colonial Steamer "Serendib" -	29060	79	26453	7	—		2607	72
46	Director of Colombo Museum -	20714	23	24457	33	3743	10	—	
47	Crown Agents - -	5599	96	5599	96	—		—	
	Rs	4154060	58½	4385533	30	266112	28½	34639	57
	£	389443	3 7¼	411143	14 11¼	24948	0 7	3247	9 2¼

		Expenditure of 1876.		Expenditure of 1877.		Increase.		Decrease.	
	SERVICES, EXCLUSIVE OF ESTABLISHMENTS.	Rs	Cts.	Rs	Cts.	Rs	Cts.	Rs	Cts.
48	Pensions and Retired Allowances	459042	22	451629	29	—		7412	93
49	Revenue Services	277688	58½	336533	78	58845	9½	—	
50	Administration of Justice	84037	93	86913	22½	2875	29½	—	
51	Ecclesiastical	3000	0	3000	0	—		—	
52	Charitable Allowances	41065	53	42117	85	1052	32	—	
53	Education	176349	72	188336	56	11986	84	—	
54	Hospitals	248679	56½	424496	42	175816	85½	—	
55	Police and Gaols	352640	72	382648	16	30007	44	—	
56	Rent	34237	91	36530	25	2292	34	—	
57	Transport	245446	56½	268447	90	23001	23½	—	
58	Conveyance of Mails	107468	35	115249	51	7781	16	—	
59	Works and Buildings	403980	87½	497743	13½	93762	26	—	
60	Roads, Streets, and Bridges	2514927	2½	2959890	4½	444963	2	—	
61	Miscellaneous	414148	84½	541459	82	127310	97½	—	
62	Interest	14621	74	90365	7	75743	33	—	
63	Colonial Store	684924	44	990106	20	305181	76	—	
64	Contribution towards Military Expenditure	1239999	96	1239999	96	—		—	
65	Government Vessels	140134	19	80158	18	—		59976	1
66	Refund of Duties, Drawbacks, &c.	21470	97	31410	70	9939	73	—	
67	Lands taken for Government purposes	8968	71	22751	37	13842	66	—	
68	Immigration	97214	45	136334	38	39119	95	—	
69	Railway Services	1343540	94	1590184	31	246643	37	—	
70	Railway Construction	553000	0	429000	0	—		124000	0
	Rs	9466529	44	10945306	11½	1670165	61½	191388	94
	£	887487 12	8½	1026122 8	11	156578 0	6½	17942 14	3¼
	RECAPITULATION.								
	Establishments	4154060	58½	4385533	30	266112	28½	34639	57
	Services, exclusive of Establishments	9466529	44	10945306	11½	1670165	61½	191388	94
	Rs	13620590	2½	15330839	41½	1936277	90	226028	51
	TOTAL—£	1276930 6	3¾	1437266 3	10¾	181526 1	1½	21190 3	5½

Audit Office,
Colombo, 12th June, 1878.

W. H. RAVENSCROFT,
Auditor-General and Controller of Revenue.

EXPLANATORY STATEMENT OF THE FOREGOING.

	Rs	Cts.	Rs	Cts.	Rs	Cts.
CIVIL ESTABLISHMENTS.						
1.—HIS EXCELLENCY THE GOVERNOR.						
Decrease on Fixed Salaries	395	57				
Do. Contingencies	1030	58				
			1426	15		
Increase on Provisional Salaries			178	99		
Net Decrease					1247	16
2.—SECRETARIAT.						
Decrease on Fixed Salaries	1976	85				
Do. Contingencies	1251	66				
			3228	51		
Increase on Provisional Salaries			269	84		
Net Decrease					2958	67
3.—TREASURY.						
Increase on Fixed Salaries	1176	59				
Do. Allowances	799	98				
Do. Contingencies	132	28				
			2108	85		
Decrease on Provisional Salaries			16	71		
Net Increase					2092	14

	Rs	Cts.	Rs	Cts.	Rs	Cts.
4.—Audit Office.						
Increase on Fixed Salaries	4048	46				
Do. Contingencies	1224	58				
			5273	4		
Decrease on Provisional Salaries			43	14		
Net Increase					5229	90
Provincial Agencies :—						
5.—*Western Province.*						
Increase on Fixed Salaries	1954	0				
Do. Provisional Salaries	3477	79				
			5431	79		
Decrease on Allowances	359	94				
Do. Contingencies	3254	6½				
			3614	0½		
Net Increase					1817	78½
6.—*North-Western Province.*						
Increase on Fixed Salaries	1393	13				
Do. Provisional Salaries	4940	58				
			6333	71		
Decrease on Contingencies			337	82		
Net Increase					5995	89
7.—*Southern Province.*						
Increase on Fixed Salaries	650	88				
Do. Contingencies	251	66				
			902	54		
Decrease on Provisional Salaries			613	54		
Net Increase					289	0
8.—*Eastern Province.*						
Decrease on Provisional Salaries	3200	56				
Do. Contingencies	192	26½				
			3392	82½		
Increase on Fixed Salaries			122	44		
Net Decrease					3270	38½
9.—*Northern Province.*						
Increase on Fixed Salaries			789	70		
Do. Provisional Salaries			83	20		
Do. Contingencies			993	34		
Net Increase					1866	24
10.—*Central Province.*						
Increase on Provisional Salaries	11105	25				
Do. Contingencies	182	78				
			11288	3		
Decrease on Fixed Salaries			510	52		
Net Increase					10777	51
11.—*North-Central Province.*						
Increase on Provisional Salaries	6134	87				
Do. Contingencies	83	77				
			6218	64		
Decrease on Fixed Salaries			1037	88		
Net Increase					5180	76
12.—Public Works Department.						
Increase on Provisional Salaries	13671	11				
Do. Contingencies	241	74				
			13912	85		
Decrease on Fixed Salaries	7436	75				
Do. Allowances	1112	44				
			8549	19		
Net Increase					5363	66
13.—Survey Department.						
Increase on Provisional Salaries	42069	77				
Do. Allowances	456	25				
Do. Contingencies	5806	62				
			48332	64		
Decrease on Fixed Salaries			418	74		
Net Increase					47913	90
14.—Customs Department.						
Decrease on Fixed Salaries			2882	13		
Increase on Provisional Salaries	2470	17				
Do. Allowances	0	8				
Do. Contingencies	194	71½				
			2664	96½		
Net Decrease					217	16½

	Rs	Cts.	Rs	Cts.	Rs	Cts.
15.—HARBOUR DEPARTMENT.						
Increase on Contingencies			3002	85		
Decrease on Fixed Salaries	198	23				
Do. Provisional Salaries	260	74				
Do. Allowances	51	88	510	85		
Net Increase					2492	0
16.—POST OFFICES.						
Increase on Provisional Salaries	16080	59				
Do. Allowances	285	0				
Do. Contingencies	953	15	17318	74		
Decrease on Fixed Salaries			2925	4½		
Net Increase					14393	69½
17.—ROYAL BOTANIC GARDENS.						
Increase on Contingencies			265	42		
Decrease on Fixed Salaries	150	16				
Do. Provisional Salaries	109	55	259	71		
Net Increase					5	71
JUDICIAL ESTABLISHMENTS.						
18.—SUPREME COURT.						
Decrease on Fixed Salaries					2914	0
19.—QUEEN'S ADVOCATE.						
Increase on Fixed Salaries	1471	42				
Do. Provisional Salaries	3078	33				
Do. Contingencies	86	78	4636	53		
Decrease on Allowances			20	87		
Net Increase					4615	66
20.—REGISTRAR, SUPREME COURT.						
Decrease on Fixed Salaries			943	82		
Do. Provisional Salaries			19	71		
Do. Contingencies			69	2		
Total Decrease					1032	55
DISTRICT COURTS, POLICE COURTS, AND COURTS OF REQUESTS.						
21.—*Western Province.*						
Increase on Provisional Salaries			5600	17		
Decrease on Fixed Salaries	590	41				
Do. Contingencies	349	37	939	78		
Net Increase					4660	39
22.—*North-Western Province.*						
Increase on Fixed Salaries			1360	37		
Do. Provisional Salaries			1315	3		
Do. Contingencies			717	7		
Total Increase					3392	47
23.—*Southern Province.*						
Increase on Fixed Salaries			1323	84		
Do. Provisional Salaries			4	14		
Do. Contingencies			282	6		
Total Increase					1610	
24.—*Eastern Province.*						
Increase on Fixed Salaries			466	65		
Do. Provisional Salaries			2	49		
Do. Contingencies			24	15		
Total Increase					493	29
25.—*Northern Province.*						
Decrease on Fixed Salaries	1436	56				
Do. Contingencies	15	13	1151	69		
Increase on Provisional Salaries			165	43		
Net Decrease					986	24
26.—*Central Province.*						
Decrease on Fixed Salaries			571	32		
Do. Provisional Salaries			404	48		
Do. Contingencies			172	94		
Total Decrease					1148	74

	Rs	Cts.	Rs	Cts.	Rs	Cts.
27.—*North-Central Province.*						
Decrease on Fixed Salaries	227	63				
Do. Provisional Salaries	27	97				
			225	60		
Increase on Contingencies			44	91		
Net Decrease					210	69
28.—Registration Department.						
Decrease on Fixed Salaries	1639	75				
Do. Allowances	13756	50				
Do. Contingencies	2372	37				
			17768	62		
Increase on Provisional Salaries			333	96		
Net Decrease					17434	66
Fiscals.						
29.—*Western Province.*						
Increase on Provisional Salaries	160	76				
Do. Contingencies	629	30				
			790	6		
Decrease on Fixed Salaries			25	45		
Net Increase					764	61
30.—*North-Western Province.*						
Increase on Fixed Salaries	1219	39				
Do. Provisional Salaries	1174	20				
Do. Contingencies	12	43½				
			2406	2½		
Decrease on Allowances			240	0		
Net Increase					2166	2½
31.—*Southern Province.*						
Increase on Fixed Salaries			95	89		
Do. Provisional Salaries			395	12		
Do. Contingencies			477	37		
Total Increase					968	38
32.—*Eastern Province.*						
Increase on Fixed Salaries			118	60		
Do. Provisional Salaries			218	71		
Do. Contingencies			201	22		
Total Increase					538	53
33.—*Northern Province.*						
Decrease on Provisional Salaries			840	35		
Increase on Fixed Salaries	83	47				
Do Contingencies	458	20				
			541	67		
Net Decrease					298	68
34.—*Central Province.*						
Increase on Fixed Salaries			4	26		
Do. Provisional Salaries			647	72		
Do. Contingencies			154	42		
Total Increase					806	40
35.—*North-Central Province.*						
Increase on Provisional Salaries	48	37				
Do. Contingencies	146	71				
			195	8		
Decrease on Fixed Salaries			8	67		
Net Increase					186	41
36.—Loan Board.						
Increase on Fixed Salaries			21	68		
Do. Contingencies			31	88		
Total Increase					53	56
37.—Ecclesiastical.						
Increase on Fixed Salaries	1343	22				
Do. Provisional Salaries	596	78				
			1940	0		
Decrease on Allowances			218	41		
Net Increase					1721	59
38.—Public Instruction.						
Increase on Provisional Salaries			14024	69		
Decrease on Fixed Salaries			551	6		
Net Increase					11473	63

	Rs	Cts.	Rs	Cts.	Rs	Cts.
39.—Medical Department.						
Increase on Provisional Salaries - -	4008	74				
Do. Allowances - -	294	99				
Do. Office Contingencies - -	15445	64				
			19749	37		
Decrease on Fixed Salaries - -	-	-	864	20		
Net Increase		-			18885	17
40.—Police Department.						
Increase on Provisional Salaries - -	14304	41				
Do. Allowances - -	2360	77				
			16665	18		
Decrease on Contingencies - -	-	-	294	29		
Net Increase		-			16370	89
41.—Prisons Department.						
Decrease on Provisional Salaries - -	95	41				
Do. Contingencies - -	439	25				
			534	66		
Increase on Fixed Salaries -	-	-	221	75		
Net Decrease		-			312	91
42.—Convict Establishments.						
Increase on Fixed Salaries - -	-	-	1676	9		
Do. Provisional Salaries - -	-	-	9567	71		
Do. Contingencies - -	-	-	2549	50		
Total Increase		-			13793	30
43.—Colonial Store.						
Increase on Fixed Salaries - -	-	-			178	16
44.—Ceylon Government Railway.						
Increase on Provisional Salaries - -	-	-	55368	93		
Do. Allowances - -	-	-	5196	28		
Do. Contingencies - -	-	-	15707	28		
Total Increase					76272	49
45.—Agent, Colonial Steamer "Serendib."						
Decrease on Provisional Salaries - -	-	-	2474	83		
Do. Allowances - -	-	-	132	89		
Total Decrease		-			2607	72
46.—Director of Colombo Museum.						
Increase on Provisional Salaries - -	-	-	3080	23		
Do. Contingencies - -	-	-	662	87		
Total Increase		-			3743	10

48.—Pensions and Retired Allowances.—The decrease is owing to the death of several pensioners during the year. These pensions have consequently lapsed.

49.—Revenue Services. The increase under this head of expenditure is chiefly due to the expenses incurred in connection with the Pearl Fishery at Aripu which realized 190,337 rupees.

50.—Administration of Justice.—The increase is in batta paid to jurors, and witnesses attending the Sessions of the Supreme Court.

51.—Ecclesiastical.—There is no variation in the expenditure under this head.

52.—Charitable Allowances.—The small increase under this head hardly calls for any remark.

53.—Education.—The progressive yearly increase under this head is consequent on the extension of the grant-in aid scheme and the opening of new schools.

54.—Hospitals.—The prevalence of cholera, chiefly in the Northern Province, is the cause of the increased expenditure under this head.

55.—Police and Gaols.—Although the number of prisoners in the jails in 1877 was somewhat less than in 1876, yet the enhanced price of provisions, chiefly rice, consequent upon the scarcity in India has contributed to raise the expenditure under this head over that of the preceding year.

56.—Rent.—The establishment of new schools, and the office accommodation given to district surveyors account for the increase of expenditure under this head.

57.—Transport.—The increase is chiefly in the Police and Public Instruction Departments and in the Departments of the Provincial Agencies.

58.—Conveyance of Mails.—This is due to the establishment of new Post Offices.

59.—Works and Buildings.—The construction of several new buildings in the course of the year, chiefly the new Jails at Kandy, Chilaw, Kegalla, and Anuradhapura, the new hospitals at Kalutara, the Powder Magazine in Kandy, and the additions and improvements made to the Welikada, Galle, and Kurunegala Jails and other public buildings account for this increased expenditure.

60.—ROADS, STREETS, AND BRIDGES.—The following are some of the most important works which contributed to increase the expenditure for 1877, viz.:—

New road from Hambantota to Tanamalwila and Wellawaya.
New road to Rakwana.
New road from Bunyan bridge to Forres, Maskeliya.
Extension of Uda Pussellawa road.
New road from Nuwara Eliya to Maturata.
Improvement to the Central road to Jaffna.
Completion of the Kalutara bridge.
Bridging the Mullaittivu road and the road from Vavuniya-Vilankulam to Horawapotana.

61.—MISCELLANEOUS.—The increase of expenditure under this head is chiefly attributable to the loss on Exchange on Bills drawn on the Colony by the Crown Agents. There has also been an increase of expenditure by the Surveyor-General, owing to the extension of his staff in connection with Chena Surveys, &c.

62.—INTEREST.—The interest which became due during the year on loans raised for the Breakwater Works contributed to swell the expenditure under this head.

63.—COLONIAL STORE.—The increased demands for stores for public purposes, which were supplied by the Crown Agents, served to swell the expenditure under this head.

64.—CONTRIBUTION TOWARDS MILITARY EXPENDITURE.—This is the usual annual contribution.

65.—GOVERNMENT VESSELS.—The discharge of the Crew, while the Serendib was undergoing repairs in Bombay, and the saving in coal, pilotage, &c., while the vessel was lying in Dock, contributed to reduce the expenditure.

66.—REFUND OF DUTIES, DRAWBACKS, ETC.—This is a fluctuating item of expenditure, and is dependent upon the claims for refunds as they arise.

67.—LANDS TAKEN FOR GOVERNMENT PURPOSES.—The value of land taken for the new hospital at Kalutara has chiefly been the cause of the increase of expenditure under this head.

68.—IMMIGRATION.—The influx of starving Immigrants from the famine districts of Southern India has largely contributed to raise the expenditure under this head.

69.—RAILWAY SERVICES.—The opening of the new line from Colombo to Panadure and the construction of additional accommodation, and other new works on the main line from Colombo to Kandy helped to increase the expenditure on this head.

70.—RAILWAY CONSTRUCTION.—The expenditure includes the sum of Rs. 100,000, being the last instalment paid on account of the loan of Rs. 400,000 raised by Debentures in the Colony for the construction of the Nawalapitiya Branch Railway.

Audit Office,
Colombo, 12th June, 1878.

W. H. RAVENSCROFT,
Auditor-General.

IV.—STATEMENT shewing the ASSETS and LIABILITIES of the Ceylon Government on the 31st December, 1877.

ASSETS.		Rs	Cts.	Rs	Cts.	£	s.	d.
Cash in the General Treasury and District Chests		2017670	79					
Cash in the hands of the Crown Agents		69088	80					
Invested in the Local Banks		1170994	51					
Invested in Indian Government Securities @ 103		699473	0					
Invested in England in Colonial Stocks		465066	66					
Advances outstanding on 31st December, 1877		1954075	35					
Crown Agents' expenditure on account of Breakwater Works, to be recovered		99893	97					
Crown Agents' expenditure on account of Railway Extension Surveys to be recovered		1717	33					
Crown Agents' expenditure on account of Matale Railway, to be recovered		559	99					
Crown Agents' expenditure on account of Works and Buildings, to be recovered		24	89					
Crown Agents' expenditure on account of Roads, Streets, and Bridges, to be recovered		3508	79					
Advances made by Crown Agents to Public Officers proceeding to the Colony, to be recovered		1206	66					
Stamp duty on a warrant of appointment, to be recovered		5	33					
Crown Agents' expenditure on account of Colombo Water Works, to be recovered		90	94					
Medical Examination fees to be recovered		89	60					
Loan to Municipal Council, Kandy		154293	17					
Recoverable arrears, estimated		400000	0					
Surcharges outstanding, estimated		50000	0					
				7087759	78	664477	9	7
LIABILITIES.								
Deposits—General	3275979 51½							
Do. Lapsed Loan Board Funds	68823 48							
		3344802	99½					
Balance due to Government of India		18992	35					
Do. Agents, Bombay		1725	35					
Do Agents, Madras		2944	85					
British Packet Postage		8193	24					
Family Remittances remaining unpaid		29316	70					
Temporary loan from Oriental Bank, Jaffna		53572	17					
Unexpended balances on ordinary votes brought forward for 1878		1646060	58					
Bills sold by Crown Agents remaining unpaid		200000	0					
Drafts and Remittances outstanding		517292	73½					
Medical Examination fee to be refunded to Mr. Bolton		11	20					
Balance due to Natal Government on account of a temporary loan		213333	33					
Total Liabilities...				6036245	50	565898	0	4
Excess of Assets over Liabilities—Rs.				1051514	28	98579	9	3

Audit Office,
Colombo, 29th June, 1878.

W. H. RAVENSCROFT.
Auditor-General and Controller of Revenue.

V.—STATEMENT OF CASH TRANSACTIONS OF THE COLONY FOR THE YEAR 1877.

	Rs	Cts	£	s.	d.
To Balance on the 31st December, 1876	2,234,870	96¼	209,519	3	0¾
Gross Revenue for the year	17,026,191	67	1,596,205	9	4½
Amount of Drafts drawn during the year	10,653,945	44½	998,741	15	2½
Do Deposits received during the year	8,990,223	48½	843,677	4	6½
Do. Remittances received do.	6,440,797	45	603,824	15	2½
Do Advances repaid do.	7,221,663	34	677,030	18	9¼
Do. investments withdrawn	2,257,003	23	211,594	1	0¾
Sums placed to the credit of Her Majesty's Government	1,241,038	85	116,347	7	10½
Do. Government of India	53,267	93	4,993	17	4
Do. Straits Government	396	74	37	3	10¾
Do. Agents at Calcutta	448	0	42	0	0
Do Agents at Madras	6,940	61	650	13	7¾
Do Agents at Bombay	47,709	10	4,472	14	6¾
Do. Crown Agents	1,012,613	54	94,932	10	4¼
Nominal value of Cent coins received	17,900	0	1,678	2	6
Receipts of the Crown Agents other than Revenue	747,408	13	70,069	10	3
Bills sold by the Crown Agents for the general service of the Colony	2,255,777	74	211,479	3	3
Temporary loan from Oriental Bank, Jaffna	53,572	17	5,022	7	9¾
Account repaid by Municipal Council, Kandy, on account of Loan for Waterworks	706	83	66	5	3¾
Total...	60,270,775	22¼	5,650,385	3	6¾

	Rs	Cts	£	s.	d.
By Gross Expenditure of the year, viz.:—					
On the Votes of the year	15,330,839	41½	1,437,266	3	11
Against Surplus Funds of past years	1,200,000	0	112,500	0	0
Against Balances of previous years' votes brought forward	898,158	78	84,202	7	8
	17,428,998	19½	1,633,968	11	7
Drafts paid during the year	10,399,669	2	974,968	19	5
Deposits paid do.	8,125,752	84½	761,789	6	7
Remittances made do.	6,610,794	82	619,762	0	3½
Advances made do.	8,164,238	77½	765,397	7	8
Sums debited to Her Majesty's Government	1,241,038	85	116,347	7	10½
Do. Government of India	73,291	42	6,871	1	5
Do. Straits Government	396	74	37	3	10¾
Do. Agents at Calcutta	448	0	42	0	0
Do. Agents at Madras	4,039	56	378	14	2
Do. Agents at Bombay	46,356	47	4,345	18	4½
Do. Crown Agents	2,493,968	69	233,809	11	3½
Amount invested in Local Banks	2,313,428	22	216,883	17	11
Cost of New Coins	16,648	66	1,560	16	3
Loans to Municipal Council, Kandy	70,000	0	6,562	10	0
Payments made by Crown Agents not chargeable against votes	1,194,945	37	112,026	2	7
	58,184,015	63¼	5,454,751	9	3¾
Balance on 31st December, 1877—					
In the Colony (Rs 2,017,670 79)					
In England (Rs 69,088 80)	2,086,759	59	195,633	14	3
Total...	60,270,775	22¼	5,650,385	3	6¾

Audit Office,
Colombo, 31st May, 1878.

W. H. RAVENSCROFT,
Auditor-General and Controller of Revenue.

VI.—*STATEMENT shewing the REVENUE and EXPENDITURE of the Colony of Ceylon for the Half-year ended 30th June, 1878.*

REVENUE.	Rs.	Cts.
Arrears of revenue of former years recovered	440,248	83½
Revenue of the Current Year.		
Customs	1,424,086	79
Port and Harbour Dues	57,149	75
Land Sales...	318,076	31
Land Revenue	420,918	20
Rents, exclusive of Land	179,743	14
Licenses	910,383	13
Stamps	681,411	28½
Taxes—Assessment on Houses and Gardens	11,242	28½
Postage	6,136	63
Fines and Forfeitures	30,940	95½
Government Vessels	29,637	87
Sale of Government Property	883,039	93
Reimbursements in aid of expenses incurred by Government	152,439	6
Interest	88,413	36
Miscellaneous	191,079	44½
Special Receipts	3,978	67
Pearl Fishery	160	41
Railway Receipts	1,679,502	91
Receipts by the Crown Agents in London	14,015	18
Rs ...	7,522,604	14½

EXPENDITURE.	Rs.	Cts.
Establishments.		
Fixed Salaries	984,167	63
Provisional and Temporary Salaries	908,988	51½
Allowances	39,311	77
Office Contingencies	111,581	73½
Services, exclusive of Establishments.		
Pensions and Retired Allowances	201,494	4
Revenue Services	112,554	40
Administration of Justice	30,916	28
Ecclesiastical	1,000	00
Charitable Allowances	19,738	99½
Education...	91,128	37
Hospitals	127,726	30
Police and Jails	168,906	57
Rent	17,391	19
Transport...	109,721	74½
Conveyance of Mails	59,212	24
Works and Buildings	83,741	61½
Roads, Streets, and Bridges	964,994	25½
Miscellaneous	127,051	76½
Interest	89,937	28
Colonial Store	284,064	24
Contribution towards Military Expenditure	619,999	98
Government Vessels	21,882	21
Refund of Duties	15,634	22
Lands taken for Government purposes	209	37
Immigration	47,293	41
Railway Services	590,276	96
Advances for the Public Service, to be subsequently classified and brought to account under the proper Heads of Expenditure, excluding Advances on account of Breakwater Works and Railway Extension Surveys	1,172,122	98
	7,001,048	6
Excess of Revenue.. Rs.	521,556	8½
	7,522,604	14½

Audit Office,
Colombo, 5th November, 1878.

W. H. RAVENSCROFT,
Auditor-General and Controller of Revenue.

VII.—*COMPARATIVE STATEMENT of the REVENUE and EXPENDITURE of the Colony for the Half-years ended 30th June, 1877 and 1878.*

REVENUE	1877.		1878.		Increase.		Decrease.	
	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.
Arrears of revenue of former years recovered ...	349,414	2½	440,248	83½	90,834	81	...	
Revenue of the Current Year.								
Customs	1,731,114	76	1,424,086	79	...		307,027	97
Port and Harbour Dues ..	64,883	34	57,149	75	...		7,733	59
Land Sales	689,302	82	318,076	31	...		371,226	51
Land Revenue	411,538	42½	420,918	20	9,379	77½	...	
Rents, exclusive of Land ..	195,555	81	179,743	14	...		15,812	67
Licenses ...	1,086,417	8½	910,383	13	...		176,033	95½
Stamps	681,131	61	681,411	28½	279	67½	...	
Taxes—Assessment on Houses and Gardens....	5,615	9	11,242	28½	5627	19½	...	
Postage	6,929	12	6,136	63	...		792	49
Fines and Forfeitures	39,655	64	30,940	95½	...		8,714	68½
Government Vessels	19,663	60	29,637	87	9,974	27	...	
Sale of Government Property.	826,259	15¾	883,039	93	56,780	77¼	...	
Reimbursements in aid of expenses incurred by Government	164,737	18	152,439	6	...		12,298	12
Interest	65,870	70	88,413	36	22,542	66	...	
Miscellaneous	111,942	75	191,079	44½	79,136	69½	...	
Special Receipts	3,641	66½	3,978	67	337	0½	...	
Pearl Fishery	190,123	90	160	41	...		189,963	49
Receipts by the Crown Agents in London	13,129	68	14,015	18	885	50	...	
Railway Receipts	1,898,656	35	1,679,502	91	...		219,153	44
Rs.	8,555,582	70¾	7,522,604	14½	275,778	35¾	1,308,756	92
					Deduct Increase ...		275,778	35¾
					Nett Decrease...Rs.		1,032,978	56¼

EXPENDITURE.	1877.		1878.		Increase.		Decrease.	
Establishments.	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.
Fixed Salaries	995,598	64	984,167	63	...		11,431	1
Provisional and Temporary Salaries	844,677	76	908,988	51½	64,310	75½	...	
Allowances	30,474	93	39,311	77	8,836	84	...	
Office Contingencies	93,676	64	111,581	73½	17,905	9½	...	
Services, exclusive of Establishments.								
Pensions and Retired Allowances	220,458	35	201,494	4	...		18,964	31
Revenue Services	132,374	50	112,554	40	...		19,820	10
Administration of Justice	29,809	64½	30,916	28	1,106	63½	...	
Ecclesiastical	1,000	0	1,000	0	...		...	
Charitable Allowances	19,722	93½	19,738	99½	16	06	...	
Education	78,857	9	91,128	37	12,291	28	...	
Hospitals	109,551	12½	127,726	30	18,175	17½	...	
Police and Jails	141,854	26	168,906	57	27,052	31	...	
Rent	18,188	71	17,391	19	...		797	52
Transport	108,393	59	109,721	74½	1,328	15½	...	
Conveyance of Mails	57,552	31	59,212	24	1,659	93	...	
Works and Buildings	122,859	79	83,741	61¼	...		39,118	17¾
Roads, Streets, and Bridges	885,546	59	964,994	25¼	79,447	66¼	...	
Miscellaneous	124,659	77½	127,051	76½	2,391	99	...	
Interest	73,568	7	89,937	23	16,369	21	...	
Colonial Store	495,412	78	284,064	24	...		211,348	54
Contribution towards Military Expenditure	619,999	98	619,999	98	...		...	
Government Vessels	27,707	64	21,882	21	...		5,825	43
Refund of Duties	14,897	2	15,634	22	737	20	...	
Lands taken for Govt. purposes	1,769	32	209	37	...		1559	95
Immigration	43,520	69	47,293	41	3,772	72	...	
Railway Services	560,359	45	590,276	96	29,917	51	...	
Advances for the Public Service to be subsequently classified and brought to account under the proper Heads of Expenditure, excluding Advances on account of Breakwater Works and Railway Extension Surveys	886,519	15	1,172,122	98	285,603	83	...	
	6,738,990	74	7,001,048	6	570,922	35¼	308,865	3¾
				Deduct Decrease...	308,865	3¾		
				Nett Increase...Rs.	262,057	32		

Audit Office,
Colombo, 30th November, 1878.

W. H. RAVENSCROFT,
Auditor-General and Controller of Revenue.

VIII.—*COMPARATIVE STATEMENT of the Estimated and Actual REVENUE and EXPENDITURE of the Colony for the Half-year ended 30th June, 1878.*

REVENUE.	Estimated.	Actual.	Increase.	Decrease.
	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
Arrears of revenue of former years recovered	210,000 0	440,248 83½	230,248 83½	—
Revenue of the Current Year.				
Customs	1,550,000 0	1,424,086 79	—	125,913 21
Port and Harbour Dues	60,000 0	57,149 75	—	2,850 25
Land Sales ...	450,000 0	318,076 31	—	131,923 69
Land Revenue	510,000 0	420,918 20	—	89,081 80
Rents, exclusive of Land	220,000 0	179,743 14	—	40,256 86
Licenses ...	1,100,000 0	910,383 13	—	189,616 87
Stamps ...	700,000 0	681,411 28½	—	18,588 71½
Taxes Assessment on Houses and Gardens	17,500 0	11,242 28½	—	6,257 71½
Postage ..	7,500 0	6,136 63	—	1,363 37
Fines and Forfeitures	45,000 0	30,940 95½	—	14,059 4½
Government Vessels ..	25,000 0	29,637 87	4,637 87	—
Sale of Government Property	825,000 0	883,039 93	58,039 93½	—
Reimbursements in aid of Expenses incurred by Government....	215,000 0	152,439 6	—	62,560 94
Interest	70,000 0	88,413 36	18,413 36	—
Miscellaneous	110,000 0	191,079 44½	81,079 44½	—
Special Receipts	5,000 0	3,978 67	—	1,021 33
Pearl Fishery	—	160 41	160 41	—
Railway Receipts	1,625,000 0	1,679,502 91	54,502 91	—
Receipts by the Crown Agents in London...	5,000 0	14,015 18	9,015 18	—
	7,750,000 0	7,522,604 14½	456,097 94	683,493 77½
		Deduct Increase ...		456,097 94
		Nett Decrease...Rs.		227,395 85½

EXPENDITURE.	Estimated.	Actual.	Increase.	Decrease.
	Rs. Cts.	Rs. Cts.	Rs. Cts.	Rs. Cts.
Establishments.				
Fixed Salaries ...	1,033,381 50	984,167 63	—	49,213 87
Provisional and Temporary Salaries	1,046,655 73½	908,988 51½	—	137,667 22
Allowances	61,102 50	39,311 77	—	21,790 73
Office Contingencies	131,777 60	111,581 74½	—	20,195 86½
Services, exclusive of Establishments.				
Pensions and Retired Allowances ..	241,554 40	201,494 4	—	40,060 36
Revenue Services	201,264 50	112,554 40	—	88,600 10
Administration of Justice ...	42,130 0	30,916 28	—	11,213 72
Ecclesiastical	1,500 0	1,000 0	—	500 0
Charitable Allowances	21,652 50	19,738 99½	—	1,913 50½
Education	104,137 50	91,128 37	—	13,009 13
Hospitals	124,094 8½	127,726 30	3,632 21½	—
Police and Jails	137,626 25	168,906 57	31,280 32	—
Rent	18,289 50	17,391 19	—	898 31
Transport	119,081 50	109,721 74½	—	9,359 75½
Conveyance of Mails	59,416 33	59,212 24	—	204 9
Works and Buildings	325,906 0	83,741 61½	—	242,164 38½
Roads, Streets, and Bridges	1,713,020 0	964,994 25½	—	748,025 74½
Miscellaneous ...	184,232 0	127,051 76½	—	57,180 23½
Interest	70,000 0	89,937 28	19,937 28	—
Colonial Store	240,109 96	284,064 24	43,954 28	—
Contribution towards Military Expenditure	620,000 0	619,999 98	—	0 2
Government Vessels	23,000 0	21,882 21	—	1,117 79
Refund of Duties	21,440 0	15,634 22	—	5,805 78
Lands taken for Government purposes	9,500 0	209 37	—	9,290 63
Immigration	52,387 50	47,293 41	—	5,094 9
Railway Services	714,598 0	590,276 96	—	124,321 4
Railway Construction	150,000 0	—	—	150,000 0
Electric Telegraph	5,000 0	—	—	5,000 0
	7,472,807 36	5,828,925 8	98,804 9½	1,742,686 37½
			Deduct Increase ...	98,804 9½
			Nett Decrease . . Rs.	1,643,882 28

Audit Office,
Colombo, 5th November 1878

W. H. RAVENSCROFT.
Auditor General and Controller of Revenue.

IX.—*ESTIMATE of the REVENUE and EXPENDITURE of the Colony of Ceylon, for the Year* 1879.

REVENUE.	Rs.	Cts.
Arrears of Revenue of former years ..	400,000	0
Customs	3,100,000	0
Port and Harbour Dues	100,000	0
Land Sales	1,000,000	0
Land Revenue	950,000	0
Rents, exclusive of Land	400,000	0
Licenses	2,000,000	0
Stamps	1,400,000	0
Taxes	32,000	0
Postage	14,000	0
Fines, Forfeitures, and Fees of Court ..	60,000	0
Government Vessels	50,000	0
Sale of Government Property ..	1,050,000	0
Reimbursements in aid of Expenses incurred by Government	350,000	0
Miscellaneous Receipts	250,000	0
Interest	150,000	0
Pearl Fishery	40,000	0
Special Receipts	10,000	0
Receipts by the Crown Agents in London	25,000	0
	11,381,000	0
Railway Receipts	3,500,000	0
	14,881,000	0
Draft from Balances ..	463,953	0
Total Rs.—	15,344,953	0

EXPENDITURE.	Rs.	Cts.	Rs.	Cts.	Rs.	Cts.
Charges sanctioned by Ordinances Nos. 1 *of* 1870 *and* 8 *of* 1872.						
Establishments.						
Civil	1,156,727	75				
Judicial	615,158	0				
Ecclesiastical	87,200	0				
Public Instruction	39,750	0				
Medical	88,470	0				
Police	23,500	0				
Prisons	10,650	0				
Convict Establishment	12,840	0				
Colonial Store	25,821	25				
			2,050,117	0		
Sanctioned by Ordinance No. 12 *of* 1867.						
Contribution towards Military Expenditure .. .	..	..	1,240,000	0		
Sanctioned by Ordinances Nos. 9 *of* 1869 *and* 6 *of* 1870.						
Railway Interest and Sinking Fund	..	..	618,666	0		
					3,908,783	0
Charges voted by the Legislative Council in Appropriation Ordinance for 1879	..	..	..	..	10,687,899	58
					14,596,682	58
Works charged on Balances	..	..	..	..	463,953	0
Surplus Revenue	..	..	..	..	284,317	42
			Total—Rs.		15,344,953	0

Council Chamber,
Colombo, 19th December, 1878.

J. DOUGLAS,
Colonial Secretary.

XXXVIII.

IRRIGATION WORKS.

RETURN OF IRRIGATION WORKS EXECUTED IN THE SEVERAL PROVINCES OF THE ISLAND FROM 1868 TO 1st AUGUST, 1878.

Ordered by His Excellency the Governor to be Printed.

COLOMBO:
WILLIAM HENRY HERBERT, GOVERNMENT PRINTER, CEYLON.

1879.

RETURN OF IRRIGATION WORKS EXECUTED IN THE SEVERAL PROVINCES OF THE ISLAND FROM 1868 TO 1st AUGUST, 1878.

RETURNS BY THE SEVERAL GOVERNMENT AGENTS.

Name of Work.	Date of Commencement.	Date of Completion	Estimated Extent capable of Irrigation.	Actual Extent under Cultivation.	Extent of Land belonging to Government.	Extent of Government Land sold.	Amount realized by Sale.	Amount realized on Water Rate.	Amount due on Water Rate.
Western Province.									
Colombo.			A. R. P.	A. R. P.	A. R. P.	A. R. P.	Rs Cts.	Rs. Cts.	Rs. Cts.
Boralesgamuwa tank	July, 1868	Dec. 1868	295 0 12	260 0 0	2 0 0	—	—	3,007 57	567 63 *a*
Kesbewa tank	Sep. 1872	Oct, 1872	75 0 0	75 0 0	—	—	—	—	— *b*
Ratnapura.									
Opanaike	Oct 1869	Feb. 1870	12½ amunas	12½ amunas	—	—	—	818 49	12 84 *c*
Kuchiguna	do	Dec. 1870	48 ..	A. R. P. 46 3 29	A. R. P. 20 0 19	A. R. P. 20 0 19	810 0	1,052 0	3,768 64 *d*
Malwatta	May, 1871	Nov. 1872	49 ..	12 amunas	4 amunas	—	—	2,165 16	1,113 60 *e*
Walalgoda	do.	Dec. 1872	A. R. P. 270 2 35	A. R. P. 67 0 0	A. R. P. 60 0 28	44 0 28	538 0	2,509 14½	2,216 95½ *f*
Kalutara.									
Bolabotuwewa	1st Aug. 1876	2nd March. 1877	103 0 0	103 0 0	—	—	—	—	— *g*
Raigama (*alias*) Uyanwattewewa	18th Nov. 1876	Not completed	175 0 0	175 0 0	—	—	—	—	—
Remunewewa	22nd Jan., 1877	do	169 0 0	169 0 0	—	—	—	—	—
Medagamawewa	10th May, 1877	do	116 0 0	116 0 0	—	—	—	—	—
Alutgama, Mahawewa, and Kudawewa ...	do	do.	82 0 0	82 0 0	—	—	—	—	—

a The amount of water rate due is 3,575 rupees and 20 cents to be paid in ten yearly instalments. The 1st, 2nd, and 3rd instalments have been fully paid up.

The balance of the other instalments, which is as follows, is being recovered :—

				Rs	Cts.
4th Instalment due 30th June,			1872 ...	13	63
5th	do	do	1873 ...	17	92
6th	do.	do	1874 ..	18	74
7th	do.	do	1875 .	27	63
8th	do.	do.	1876 ..	38	49
9th	do	do	1877 ..	104	35
10th	do.	do.	1878	346	88
			Total..	567	63

The sluice and spillwater were constructed by Government gratis No water rate due.

The amount realized was paid in nine instalments. The balance due is on account of the ninth instalment due for the current year.

Commuted for tax per acre in perpetuity. This amount represents an annual payment for eight years at the rate of 602 rupees and 58 cents each year The cultivators have elected to pay a perpetual tax of one rupee per acre First instalment became due in 1871

e. The amount realized was paid in five instalments. The amounts due are on the following accounts —

	Rs.	Cts.	
1st Instalment	102	74	—1873
2nd do .. .	114	2	
3rd do.	113	7	
4th do . .	113	26	
5th do .. .	124	5	
6th do	546	46	current year
	1,113	60	
Deduct ..	452	40	due on Crown lands
	661	20	
Reported as irrecoverable ...	214	60	
Balance .	Rs 446	60	The recovery of which is proceeded with

f The amount realized was paid in four instalments The amounts due are on the following accounts —

	Rs	Cts.	
1st Instalment . .	113	13½	—1873
2nd do. ..	119	9	
3rd do.	185	31	
4th do	224	12	
5th do	787	95	
6th do	787	65	due current year.
	2,216	95½	
Deduct	494	10	due on Crown lands.
	1,722	85½	

The owners have applied to be allowed to commute the repayment of instalments for a perpetual payment of one rupee per acre

g —No water rate is due.

IRRIGATION WORKS.—*continued.*

Name of Work.	Date of Commencement	Date of Completion	Estimated Extent capable of Irrigation	Actual Extent under Cultivation.	Extent of Land belonging to Government	Extent of Government Land sold	Amount realized by Sale.	Amount realized on Water Rate.	Amount due on Water Rate.
			A. R. P.	A. R. P.	A. R. P.	A. R. P.	Rs. Cts.	Rs. Cts.	Rs. Cts.
North-Western Province.									
Kurunegala.									
Kudugalaputiya *a*	Dec. 1870	Dec. 1871	590 0 0	287 3 3	0 3 29	49 2 38	2,304 0	2,787 49	6,312 66
Wenoruwewa	June, 1871	July, 1874	419 3 3 *b*	200 2 18	6 1 17	—	—	524 47	— *d*
Magalawewa	Aug. 1871	Dec. 1873	2,000 0 0	250 0 0	1,000 0 0	—	—	746 21	
Galgomuwa	Nov. 1875	June. 1877	500 0 0	381 3 17	—	—	—	—	
Puttalam.									
Deduru-oya Channel	Feb. 1872	Dec. 1872	1,100 0 0	1,100 0 0	—	264 0 3	2,740 0	—	— *e*
Do. Head Sluice	March, 1870	Nov. 1872							
Do. Dam	March. 1878	Not complete							
Tinipitiyawewa	Nov 1870	Oct 1874	700 0 0	542 0 0	229 0 0	170 0 0	3,490 0	3,287 49	15 0
Galkulam	May. 1869	Nov. 1869	60 0 0	55 0 0	—	—	—	347 40½	41 92
Maha-uswewa	May, 1876	—	1,200 0 0	—	1,200 0 0	—	346 0 *f*	—	—
Central Province.									
Badulla.									
Alut-ela	Sep. 1868	Sep. 1869	300 0 0	292 0 0	26 0 0	—	—	2,154 66	705 82 *g*
Buttala-ela	Nov. 1868	Dec. 1869	—	727 0 0	97 0 0	—	—	2,145 75	1,908 81 *h*
Do.	June. 1871	Oct. 1872							
Do.	Dec. 1872	Dec 1872							
Do	July. 1873	Sep 1873							
Horaborawewa	Nov. 1869	Sep. 1870	3,000 0 0	325 0 0	115 0 0	192 2 19	3,086 0	1,029 68	1,231 96 *i*
Do.	Dec. 1872	June. 1873							
Do.	Nov. 1873	Dec 1873							
Kudáwewa	Oct. 1869	July 1870	250 0 0	—	2 0 4	87 1 26	1,759 25	—	— *j*
Do.	Nov. 1870	Dec. 1870							
Do	Dec. 1872	July 1873							
North-Central Province.									
Bassawakkulama	1873	1876	800 0 0	12 0 0	788 0 0	—	—	12 0	—
Madawachchiya Mahawewa	1873	1876	300 0 0	37 2 8	225 0 0	36 2 19	464 0	—	45 0

a. The original estimate was 9,090 rupees for an anicut and 4,910 rupees for a channel; when a certain expenditure had been incurred on the latter, it was found that it would cost another 10,000 rupees to complete it and it was abandoned.

b. Of this extent, 219 acres and 25 perches have not yet been assessed because special channels are required to be opened from the tank to give them water

c. This is the whole extent yet brought under assessment: of this, an extent of 10 acres 2 roods and 1 perch were brought under assessment in 1877, channels from the tank having been opened by the landowners.

d. Water rate paid in perpetuity. The assessment for water rate has just been completed. The rate will be recovered from 1878, on the list being returned sanctioned by Government.

e No water rate can be recovered on the Deduru-oya irrigation works until completion of the dam which was commenced this year

f. This is only a quarter of the purchase amount of the lands, which were sold in terms of Sir Henry Ward's Minute of 27th February, 1857.

g. This work is to have its cost defrayed by ten yearly contributions The first repayment began in October, 1870. The amount of water rate due is 4,086 rupees and 40 cents, to be paid in ten yearly instalments, and the amount recovered up to the 30th June, 1877, was 2,154 rupees and 66 cents; and the balance 1,931 rupees and 74 cents is being recovered.

h. Although the repayment of this work fell due in October, 1873, no payment was made until the 6th of January, 1875, instructions from Government as to the payment of the first annual instalment having been received in December, 1874.

i The repayment of this work fell due in 1873, but for reasons stated above the first annual payment was in November, 1874. The water rate due for the ten yearly instalments is 5,654 rupees and 10 cents

j The repayment of this work falls due, according to conditions of sale, this year

IRRIGATION WORKS.—*continued.*

Name of Work.	Date of Commencement.	Date of Completion	Estimated Extent capable of Irrigation.	Actual Extent under Cultivation.	Extent of Land belonging to Government.	Extent of Government Land sold.	Amount realized by Sale.	Amount realized on Water Rate.	Amount due on Water Rate.
			A. R. P.	A. R. P.	A. R. P.	A. R. P.	Rs. Cts.	Rs. Cts.	Rs. Cts.
SOUTHERN PROVINCE.									
Galle.									
Digoda	1872	1873	123 3 24	123 3 24	—	—	—	376 62	3,647 73
Hambantota.									
Udukiriwila	1871	1873	2,500 0 0	2,500 0 0	1 0 0	—	—	4,647 17½	381 75
Tissamaharama	1871	1876	Unascertained; possibly 15,000 0 0	102 0 0	All	708 2 6	8,118 75	—	—
Mátara.									
Borala Tank	1868	1869	423 0 0	423 0 0	—	—	—	1,083 71	176 0
Kekanadura Tank and Channel . ..	1869	1872	2,000 0 0	—	—	—	—	2,840 46	87 50
Denagama and Weangwewa	1868	1873	2,350 0 0	567 0 0	—	—	—	1,179 48	419 50
Wehella Tank	1873	1873	75 0 0	75 0 0	—	—	—	186 12	103 25
Gangaboda Pattu Scheme.									
Hali-ela Tank	1871	1872						2,981 39	172 41
Sapugoda Anicut	1871	1872						1,073 69	140 25
Urapola Anicut	1871	1873						—	—
Batuwita and Uduwa Channels	1871	Not completed						—	—
Ellawella Tank	1873	1876	7,000 0 0	—	—	—	—	2,951 28	59 77
Hali-ela Channel	1873	1877						—	—
Sapugoda Head Sluice	1873	1873						—	—
Pettre Anicut	1872	1877						565 50	37 50
Alawattugoda Anicut	1874	1877						286 0	34 37
EASTERN PROVINCE.									
Batticaloa. (*d*)									
1. Rúkam	June 1868	Nov. 1872	12,000 0 0	6000 0 0	2,442 3 1	2,509 2 33	38,026 50	24,205 79	39,232 90
2. Ampárai extension . .	April 1872	Dec. 1, 1873	12,000 0 0						
3. Senkappadai	July, 1870	Sep. 30, 1872	14,000 0 0						
4. Kurunalkanchi	do.	May 10, 1871	12,000 0 0	22,591 0 38	1,245 1 34	2,046 2 6	53,223 60	25,711 84½	57,971 24½
5. Alada-odai	April 1872	Nov. 1872	6,000 0 0						
6. Vaddai Vayikkal	do.	do.	5,000 0 0						
7. Pulukanáwa	Feb. 1871	Dec. 1872	5,500 0 0	4,000 0 0	712 2 36	4,109 3 20	79,589 0	— *e*	— *e*
8. Kudukkamunai	Mar 4, 1870	Dec. 1871	3,000 0 0	3,000 0 0	1,710 2 10	—	—	3,894 66½	10,621 90½
9. Divulana	Feb. 1870	Nov. 30, 1872	3,000 0 0	4,000 0 0	1,481 0 7	3,045 2 21	34,889 75	2,012 9½	28,740 0
10 Chadivantaláwa	April 1872	Dec. 1873	3,000 0 0	3,000 0 0	775 3 24	1,774 3 34	39,223 0	6,144 30½	26,856 94½
11. Sakamatukulam	Feb. 1871	Dec. 1872	3,000 0 0	1,239 1 31	83 1 31	1,210 0 31	18,081 0	— *f*	25,451 87½
Trincomalee.									
Allaikulam	July 1868	Nov. 1873	2,103 1 22	1,338 1 8	614 3 32	794 1 27	22,879 0	11,801 50	29,710 30
Periyakulam	June, 1868	Dec. 1872	571 0 20	219 0 33	398 0 20	166 0 4	3,336 60	2,760 21	4,997 9

Water rate commenced to be recovered only since 1877, as the sluice did not work properly. The amount of water rate due is 4,024 rupees and 35 cents, to be paid in ten yearly instalments.

This tank has a bad water shed, and the extent cultivated is therefore irregular and dependent on the amount of water stored.

Extent under cultivation unascertained, works not yet completed.

The cost of the original estimate is repayable by ten annual instalments. When the actual expenditure has exceeded the estimate, the difference is not recoverable.

e The survey is complete, but the assessment is not complete, because a correct list for assessment cannot safely be made till levels have been run to the outlying lots, as reported by the Surveyor-General by letter No. 68 of 12th September, 1875.

f. In the case of Sagamatu tank the assessment on the actual expenditure having been represented through medium of petition to be very hard upon landed proprietors, the rate has been reduced by Government to one rupee per acre payable in fifteen annual instalments. Here a large extent of land assessed is also said not to be irrigable from the tank by the existing means, which require improvement. Until this is done recoveries will be made only from such as are actually cultivated and irrigated, of which the first instalment will be recovered before the close of the year.

In all cases the recoveries during the year have been greatly retarded owing to heavy losses to landed proprietors in consequence of unprecedented floods at the beginning of the year throughout the whole district.

RETURN OF IRRIGATION WORKS BY THE DIRECTOR OF PUBLIC WORKS.

Name of Tank, Anicut or Channel.	Date of Commencement.	Date of completion.	Amount of original estimate to be repaid by people.	Amount of estimate to be defrayed by Government.	Actual Expenditure.	Estimated Acreage capable of Irrigation.	REMARKS.
WESTERN PROVINCE.			Rs Cts.	Rs. Cts.	Rs. Cts	A. R. P.	
Boralesgamuwa Bokuwewa ..	July, 1868	ec 1868	3619 0	...	3574 87½	300 0 0	Actual acreage. Formerly the whole of this acreage was cultivated once a year. Now the whole is annually cultivated, and a portion sometimes twice.
Do. reconstructing sluice, foot-bridge ..	Aug. 1876	Dec. 1876	...	220 0	38 71		
			3619 0	220 0	3613 58½		
Malwatta irrigation channel ..	May, 1871	Nov. 1872	5640 0	.	5199 7	150 0 0	Area from Government Agent's returns.
Kouchugama do. ...	Oct 1869	Dec 1870	5787 38	...	5771 32	112 0 0	do. do.
Opanaike aqueduct ...	do.	Feb. 1870	920 0	...	917 15	30 0 0	do. do.
Walalgoda irrigation channel ..	May, 1871	Dec. 1871	7967 50	..	7871 96	400 0 0	do. do.
Do. additional work ...	Nov 1872	Dec 1872	300 0	980 0.	1280 0	...	Rs. 500 of this is for outlet sluice; Rs. 150 Govt. share in clearing the channel; Rs. 620 increasing masonry and regulating sluice and head works.—Total, Rs. 1,280.
			8267 50	980 0	9151 96		
Bolubotgwewa sluice and spill	Nov. 1876	July, 1877	...	830 0	798 98		
Remunuwewa masonry and two sluices ..	Feb. 1877	Dec 1877	..	1036 0.	1031 11		
Remunuwewa additional works to sluice and spillwater		...	...	450 0	332 1	...	Expenditure up to 31st July, 1878.
			..	1486 0	1363 12		
Uyanewattewewa masonry and low-level sluice ..	April, 1877	April, 1878	...	2084 0	2083 89		
Uyanewattewewa repairs and additions	Jan. 1878	April, 1878	..	2035 0	2035 0		
Masonry work and three sluices in Mahawewa and Kudawewa, Ravigam Korale .	April, 1877	June, 1878	...	4119 0	4118 89		
			...	1518 0.	1517 68		
Medagamawewa additional work	Feb. 1878	...	..	1430 0	1332 38	...	Expenditure up to 31st July, 1878.
Petigagoda sluice ...	June, 1875	Nov. 1876		3030 0	3025 67		
Kesbewa tank .	Sep. 1872	Oct 1872	...	590 0	589 63	...	Sluice and work in sluice channel given by Government.
EASTERN PROVINCE							
Periyakulam Nilaveli ...	Aug 1868	Nov. 1869	10167 0	...	10166 26	867 0 0	Acreage estimated.
Do extra works ...	Nov. 1872	Dec. 1874	...	4599 48	4596 55	..	For extra works considered to be necessary by Messrs. MacBride and Arniel
Do. completion of bund	Aug. 1873	Oct 1873	..	861 0	860 26	..	To complete work, former estimate being insufficient.
Do. repairs to bund ...	Nov. 1871	Dec 1871	..	267 0	264 67	...	
Do. channel ..	April, 1870	Oct 1870	1628 0	...	1571 91	...	Channel to the fields. This was at first intended to be cut by the people, but they applied afterwards for Government aid.
Periyakulam channel to Nilaveli	July, 1872	Dec. 1872	2381 0	...	2381 0		
Do repair and improvement of tank and channel ..	Oct 1874		...	5371 0	5018 27		
			14176 0	11098 48	24858 92		
Allaikulam, Topur .	Aug. 1868	Nov. 1868	26740 0	...	26739 94	4000 0 0	Acreage estimated includes lands at Mutur.
Do. repair of breach ..	Mar 1872	Mar. 1872	...	220 0	204 88	...	
Mutur channel	April, 1870	do.	15360 0	...	15283 60	..	To take water to the head of the fields at Mutur.
Allaikulam strengthening, and Mutur channel completion ...	Nov. 1872	Dec. 1872	...	3828 44	3821 94	..	Recommended by Messrs. Arniel and MacBride.
Allaikulam and Mutur channel, raising and strengthening bund and channel ...	Oct. 1874	Dec. 1875	...	11308 0	11294 42		
Carried forward...	...	...	42100 0	16356 44	57344 78		

IRRIGATION WORKS.

Name of Tank, Anicut or Channel.	Date of commencement.	Date of completion.	Amount of original estimate to be repaid by people.	Amount of estimate to be defrayed by Government.	Actual Expenditure	Estimated acreage capable of Irrigation.	Remarks.
			Rs. Cts.	Rs. Cts	Rs. Cts	A. R. P.	
[Brought forward...	...	...	42100 0	15356 44	57344 78		
Eastern Province.—*contd.*							
Mutur channel extension ...	July, 1872	Dec. 1873	7392 80	...	7887 67	..	To carry the channel from the head of the fields along the tract.
Do. do. ...	Dec. 1877	...	...	1740 0	1452 28	...	Expenditure up to 31st July, 1878.
Do. branch extension .	Dec. 1873	Dec. 1873	...	1008 0	931 57	...	Ordered to be executed by Government
Repairs, Allai tank ...	June, 1878	...	...	1410 0	550 0	...	In progress. Expenditure up to 31st July, 1878.
New channels to Periya Valley.	Mar. 1878	...	...	12370 0	2049 76	...	do. do.
			49992 80	31884 44	70116 6		
Kanthalai high level sluice .	July, 1869	Dec. 1869	..	2271 0	2264 21	...	A commencement of the repair by Government of this tank.
Do. fixing rods of Iron ..	Aug. 1872	Oct. 1872	...	121 0	104 92	...	Rate for ironwork in former estimate too low
Repairs, Kanthalai tank ...	July, 1877	...	...	3950 0	2807 76	...	Expenditure up to 31st July, 1878.
Kanthalai channel cutting ..	Dec. 1873	Dec. 1874	..	4263 0	4166 53	...	—
Do. complete repair of tank	April, 1874	Dec. 1876	..	71709 0	61449 60½	22000 0 0	For the complete repair. Acreage estimated. Not repaired under the Ordinance, but water rate will be charged on the lands irrigated.
			..	82314 0	70793 2½		
Rukam-kulam .	Aug. 1868	Dec. 1870	87360 0	...	86990 8	5000 0 0	This tank is really capable of irrigating over 8,000 acres, but it is not yet certain that more than 5,000 exist.
Do. spur embankment	Nov. 1870	Mar. 1871	..	3700 0	3419 21	...	Found necessary to prevent scour from the river along the foot of the bund. This could not have been foreseen.
Rukam, extra work ..	Sep. 1871	Dec. 1872	...	4800 0	4799 88	...	Found necessary to make good the leaks through and under the spill-wall, and to provide gratings in front of the sluices.
Do. raising and strengthening bund ...	Aug. 1872	Dec. 1873	...	7898 0	7895 25	...	Recommended by Messrs. MacBride and Arniel to repair sinkage and slips in bund
Do. strengthening spill wall	April, 1877		...	8585 0	8397 94	...	Expenditure up to 31st July, 1878.
Do. repairs damage by flood	Jan. 1878	...	...	12777 0	11118 8	..	
			87360 0	37760 0	122620 44		
Kadukkamunai-kulam ...	April, 1870	Dec. 1871	26778 92	..	18181 34	3000 0 0	Acreage estimated from Government Agent's returns.
Do. do ..	Oct. 1874	Nov. 1876		10274 0	10223 58	..	To make up sinkage and breaches by cattle, and to put up gratings before sluices.
Do. flood damage ...	Jan. 1878	...	...	500 0	234 37	...	Expenditure up to 31st July, 1878.
			26778 92	10774 0	28639 29		
Senkapadai anicut ...	July, 1870	Dec. 1871	41000 0	..	35025 6	14000 0 0	This and the four next works all belong to one scheme for the benefit of 24,000 acres of land, and must be considered as one work
Kurunelkanchi anicut ...	Sep. 1870	April, 1871	5560 0	..	4995 54	4000 0 0	
Vaddai Vaykal do. ...	April, 1872	Dec. 1872	8068 0	..	6221 64	8000 0 0	
Alladai Odai do. .	do.	do.	14748 0	.	13458 78	...	
Amparai, extension of tank ..	do.	Dec 1873	31364 0	...	28596 83	..	This tank and Irrikamam between them water 24,000 acres of land.
Arikamam and Ambara ..	Sep. 1876	...	...	8790 0	5113 28	...	For fixing new iron sluice gates in place of old wooden gates.
Irrikamam channel ...	...	...	...	9970 70	6236 11	...	For improving storage of tank; provides for skilled labour only.
Damage, Ambari tank ...	...	...	...	500 0	...	...	Expenditure up to 31st July, 1878.
			100180 0	19060 70	99647 24		

Name of Tank, Anicut, or Channel.	Date of commencement.	Date of completion	Amount of original estimate to be repaid by people.	Amount of estimate to be defrayed by Government.	Actual Expenditure.	Estimated Acreage capable of Irrigation.	REMARKS.
EASTERN PROVINCE.—*contd.*			Rs. Cts.	Rs. Cts.	Rs. Cts.	A. R. P.	
Sakamata-kulam ...	Mar. 1871	Dec. 1872	37110 0	...	37095 78	2400 0 0	Acreage estimated out of a larger tract.
Do. additional works ..	Nov. 1872	Oct. 1873	...	8652 0	8651 39	...	Recommended by Messrs. MacBride and Arniel for extra work to sluice, strengthening bund and extra spill, not originally contemplated owing to erroneous survey.
Do. completion ...	May, 1873	Dec. 1874	...	7487 16	6695 37	...	First supplementary estimate insufficient.
			37110 0	16139 16	52442 54		
Divilane-kulam ...	Sep. 1870	Dec 1872	34896 54		34896 54	5100 0 0	Acreage estimated to be benefited out of a larger existing tract
Do. first supplementary ...	June, 1872	Aug. 1872	.	3868 0	3867 30	..	To meet insufficient provision in original estimate, and for extra works in the spill.
Do. second supplementary, completion ..	Aug. 1872	Dec. 1873		5160 65	5160 64	...	Insufficient provision in first supplementary estimate.
Do damage by floods...	June, —	...	. .	30000 0	2216 0	..	For repair of drainage and giving extra spill Expenditure up to 31st July, 1878.
			34896 54	39028 65	46140 48		
Chadiyantalawa-kulam ...	April, 1872	Nov. 1873	54146 0	. .	54144 89	3000 0 0	Estimated to be benefited out of a larger existing tract.
Do completion ...	Dec. 1873	Dec. 1873	..	1785 0	1782 1	...	Rate of earthwork in original estimate too low.
Do. restoring damage done by floods ...	Oct. 1874	Dec. 1874	...	517 0	507 78	...	
Do. damage by floods...	...	..		500 0	..	...	Will be taken up during dry season.
			54146 0	2802 0	56434 68		
Kalmunai sluice ..	June, 1869	Dec. 1869	...	319 0	317 25	...	Built at the request of Government Agent as an example.
Pulukunawa-kulam ...	Mar. 1871	Dec. 1872	38560 0	...	38396 58	3500 0 0	Acreage estimated to be benefited out of a larger tract.
Do. extra work ...	Nov. 1872	June, 1873	...	9991 50	9989 99	...	Work found to be more difficult than expected, and survey found to be in error.
Do. completion ..	April, 1873	Dec. 1873	...	7848 50	7825 55	...	First supplementary estimate insufficient.
Do. damage .	April, 1878	...	.	5000 0	2183 42	.	For repairing damage and increasing spill
			38560 0	22840 0	58395 54		
Re-construction of an earthen dam across the Marodhaddi-aar	Oct. 1875	July, 1877	...	3920 0	3919 19		
Repairs to Malfa Panowa tank...	do.	do.	. .	7002 95	7002 93		
For masonry sluices required in the restoration of the bunds between Kuddanke and Torunulawewa ...	— 1878	...	.	1231 0	...		
NORTH-CENTRAL PROVINCE.							
Bassawakkulam repair ...	June, 1874	July, 1876		39165 0	39100 17		Water-rate to be charged on lands irrigated, at one rupee per acre.
Do. completion ...	June, 1876	June, 1877	.	11338 0	11312 57		
			...	50503 0	50412 74		
Maha Madawachchiya tank repairs	June, 1874	May, 1876	...	24831 0	24831 0	...	do. do.
Do. do. ...	April, 1876	do.	..	1400 0	1399 83		
			..	26231 0	26230 83		
Mankadawalawewa ...	June, 1875	Oct. 1875	...	1088 0	1088 0	65 0 18	Repaired on the Village Tank system—Government executes masonry work, people doing the earthwork.
Balankulamawewa ...	Mar. 1875	April, 1875	...	1088 0	931 77	22 0 16	do. do.
Alankulamawewa ...	do.	do.	...	1088 0	948 11	35 0 0	do. do.
Mahadiwulwewa ...	June, 1875	Aug. 1875	—	1088 0	1076 48	80 0 0	do. do.
Do. construction of a second sluice ...	...	July, 1875	...	814 0	814 0		
			...	1902 0	1890 48		

IRRIGATION WORKS.

Name of Tank, Anicut, or Channel.	Date of commencement	Date of completion	Amount of original estimate to be repaid by people.	Amount of estimate to be defrayed by Government.	Actual Expenditure	Estimated acreage capable of Irrigation	Remarks.	
North-Central Province.—*contd.*			Rs. Cts.	Rs. Cts.	Rs. Cts.	A. R. P.		
Etakadawewa	Oct. 1875	Dec. 1875		1088 0	1047 79	142 0 0	Repaired on the Village Tank system—Government executes masonry work, people doing the earthwork.	
Gurukandegamawewa	June, 1874	May, 1875	...	1088 0	1088 0	6 2 0	do	do.
Do. construction of a second sluice	Nov. 1875	Dec. 1875		114 0	106 99	...	do.	do.
				1202 0	1194 99			
Nelugollekadewewa	June, 1875	July, 1875		1088 0	1087 77	17 2 0	do.	do.
Kudagamawewa Kanadara	Dec. 1876	April, 1876		1088 0	1075 86	25 2 0	do.	do.
Rambewa ...	July, 1875	Sep. 1875		1088 0	1058 03	16 0 0	do.	do.
Peddogamawewa	do.	Oct. 1875		1088 0	1006 52	17 2 0	do.	do.
Aluthamillewewa	Oct. 1875	Oct. 1875		1088 0	1018 58	24 0 0	do.	do.
Dachchidamenawewa	July, 1875	Aug. 1875		1088 0	1071 42	6 2 0	do	do.
Kongollewewa	Sep. 1875	Nov. 1875		1088 0	1082 34	17 2 10	do.	do.
Wadiwewa	Oct. 1875	do.		1088 0	975 26	41 0 0	do.	do.
Halikumbukgollewewa	Sep. 1875	do		1088 0	913 86	7 0 8	do	do
Lunupichchidamanawewa	Aug. 1875	Sep. 1875	...	1088 0	1003 52	10 0 0	do.	do.
Tammanawewa No. 1	July, 1875	Aug. 1875		1088 0	1054 50	13 0 0	do.	do.
Do. No. 2	Aug. 1875	Oct. 1875		1088 0	1085 83	8 0 0	do.	do.
Etawiragollewewa	June, 1875	Sep. 1875		1088 0	1047 92	40 0 0	do.	do.
Malawawewa	Oct. 1875	Dec. 1875		1088 0	1024 17	64 0 0	do	do.
Rambewa	Nov. 1875	Jan. 1876		1088 0	1088 0	13 2 18	do.	do.
Helambagawewa	do.	do.		1088 0	937 97	36 0 0	do.	do.
Ullukulamawewa	Jan. 1876	May, 1876		1088 0	1088 0	26 0 0	do	do.
Padivankadawala	Nov. 1875	Dec. 1876		1088 0	1064 78		do	do.
Pusivankulamawewa	April, 1875	Mar. 1876		1088 0	1088 0	79 2 0	do	do.
Galligamawewa	Jan. 1876	do		1760 0	1652 91	15 2 0	do	do.
Do. per spill	Dec. 1875	Jan. 1876						
Lolugamawewa	Nov. 1875			1088 0	1088 0	6 2 0	do	do.
Mahadivulwewa per spill	Dec. 1875	Mar. 1876		800 0	785 40		do.	do.
Etaambagaskadawewa	Mar. 1875	Apr. 1876		1088 0	1088 0	23 0 0	do	do
Do., per spill	April, 1875	do						
Mahakubukgollewewa	Mar. 1876	April, 1876	...	1088 0	1088 0	58 0 0	do.	do.
Punewawewa	April, 1876	Mar. 1876		1088 0	1086 90	41 0 2	do.	do.
Kudahamillewawa	do.	do.		1088 0	1005 44	21 0 0	do.	do.
Piambulagaswewa	May, 1876	June, 1876	...	1088 0	1078 62	24 2 2	do.	do.
Wahrakawewa	Mar. 1876	do.	...	1088 0	1087 77	20 0 0	do.	do.
Mahakekirawawewa	May, 1876	do.	...	1088 0	1044 77	53 2 0	do.	do.
Kudakekirawawewa	do.	do.	...	1088 0	1088 0	33 0 10	do.	do.
Kirrigollewewa	July, 1876	Sep. 1876	...	1088 0	1088 0	26 0 0	do.	do.
Do. per spill	do.	do.	...					
Tirapanewewa	do.	do.	...	1088 0	1088 0	59 2 20	do.	do.

Name of Tank, Anicut, or Channel	Date of commencement.	Date of completion	Amount of original estimate to be repaid by people	Amount of estimate to be defrayed by Government.	Actual Expenditure.	Estimated Acreage capable of Irrigation.	Remarks.
North-Central Province.—*contd*			Rs. C.	Rs. C.	Rs. C.	A. R. P.	
Alitanewewa ..	July, 1876	Sep. 1876	.	1088 0	1088 0	28 0 20	Repaired on the Village Tank system—Government executes masonry work, people doing the earthwork.
Maradankadawalawewa ..	Sep. 1876	Oct. 1876	.	1088 0	1087 82	57 0 0	do. do
Nillatapitiyawewa ...	do	do		1088 0	1071 94	9 0 0	do. do.
Periyakulamawewa	Oct. 1876	Dec. 1876		1088 0	1088 0	34 2 26	do do.
Hamillekulamawewa ..	do	do	..	1088 0	1088 0	22 2 0	do. do.
Paramabanfillewewa	do	Nov. 1876		1088 0	1088 0	10 2 0	do do.
Kurukandeganawewa per spill.	do	Dec. 1876		850 0	850 .7	..	do. do.
Kusawawewa	do	Nov. 1876		800 0	800 0	32 2 12	do do.
Do. per spill	Nov. 1876	Dec. 1876		850 0	850 0		do. do.
Rilapanawewa No. 1	Oct. 1876	Nov. 1876	.	1088 0	1088 0	121 2 0	do. do.
Do. No. 2	Nov. 1876	Dec. 1876	.	1088 0	1088 0	.	do. do.
Uttumudusawewa	do.	do.		1088 0	1033 3	75 0 0	do. do.
Mahakelawa .	Jan. 1877	Mar. 1877		850 0	318 12		do do.
Kadawaragamawewa .	Nov. 1876	do		1088 0	1062 62	19 2 0	do do.
Selbemmadawawewa	Jan. 1877	Feb. 1877	.	1088 0	1059 55	19 2 0	do. do
Orukumankulamawewa	Dec. 1876	Jan. 1877		1088 0	1056 42	60 0 0	do. do.
Andarawewa .	Nov. 1876	Jan. 1877	..	1088 0	1076 11	48 0 0	do. do.
Adampokunewewa .	Feb. 1877	April, 1877	.	1088 0	1084 46	27 0 0	do. do.
Karadikulamawewa ..	do	May, 1877	...	1088 0	1088 0	29 0 16	do. do.
Marukankulamawewa	Jan. 1877	Mar. 1877	.	1088 0	1056 39	90 0 28	do. do
Weruganukulamawewa	Mar. 1877	May, 1877		1088 0	1088 0	55 2 14	do. do.
Petaralaladawewa ..	do	June, 1877		1088 0	1078 72	79 0 14	do. do
Nikatimuwewa ...	April, 1877	do.		1088 0	1088 0	9 2 10	do. do.
Ratemahadawewa .	do. 1877	May, 1877		1088 0	1088 0	36 0 10	do. do.
Ratmalewewa	May, 1877	June, 1877		1118 0	1118 0	38 2 16	do. do.
Paluwewa	do	July 1877		1118 0	1118 0	23 2 14	do do.
Galkadiwewa	June 1877	1877	.	1088 0	1086 94	72 0 0	do. do.
Ganemuwewa .	do	Aug. 1877		1118 0	1118 0	19 2 1	do. do.
Kumbukewewa	May, 1877	July, 1877		1088 0	1088 0	62 0 8	do. do.
Palipotanewewa	do	Sep. 1877		1088 0	1054 93	11 2 0	do do.
Ranawewewa ..	Aug. 1877	Dec. 1877	..	2224 0	2185 0	70 0 0	do. do.
Mahahulankulamewewa .	do.	do	..	1118 0	1113 11	51 0 12	do. do.
Kalpewewa ...	July, 1877	Aug. 1877	...	1118 0	975 12	60 2 14	do. do.
Parangiwadiyawewa .	Aug. 1877	Nov. 1877	...	2165 0	2069 36	100 2 18	do. do.
Wewelketiyawewa ...	do.	do.		1118 0	1041 40	60 2 16	do. do.
Ralapanawewa No. 1 ..	Sep. 1877	do.	.	1165 0	1109 32	72 0 18	do. do.
Do. No. 2 ...	Oct. 1877	Jan. 1878	..	1165 0	1165 0	...	do. do.
Horowapotanewewa ..	Aug. 1877	Sep. 1877	..	1145 0	1037 48	66 2 8	do. do.

IRRIGATION WORKS.

Name of Tank, Anicut, or Channel.	Date of commencement.	Date of completion.	Amount of original estimate to be repaid by people.	Amount of estimate to be defrayed by Government.	Actual Expenditure.	Estimated Acreage capable of Irrigation	Remarks
			Rs. Cts	Rs Cts	Rs Cts	A. R. P	
North-Central Province — *contd.*							
Annolundawawewa ..	Aug. 1877	Nov. 1877	.	1088 0	1077 70	7 2 22	Repaired on the Village Tank system—Government executes masonry work, people doing the earthwork
Diyaluttewewa .	Oct. 1877	do.	.	1088 0	1072 89	35 2 28	do do.
Dachchihamillewewa .	July, 1877	Aug 1877	.	664 0	664 0	20 0 12	do. do.
Welunopotanewewa .	Jan. 1878	Mar. 1878		1165 0	1159 38	73 0 4	do do.
Tammanewewa ...	Nov 1877	do	..	1118 0	1078 17	1[illegible] 0 0	do do.
Tamballagollewewa .	Aug 1877	do.	.	1118 0	1062 47	57 0 12	do do
Maragahawewa	Oct 1877	do.	..	1118 0	1089 2	4[illegible] 0 10	do do
Pihimbiyagollewewa ..	do.	do	.	1165 0	1095 83	18 2 14	do. do.
Mahabulanilulama per spill ..	do.	do	..			.	do do
Talagahapotanewewa ..	Jan 1878	do		1118 0	1118 0	20 0 0	do do.
Puddukulamawewa .	do.	do.	..	1148 0	1124 70	35 2 0	do do
Ellewewa ...	Sep. 1877	Jan 1878	.	2224 0	1780 82	53 0 16	do. do.
Pulivankulamawewa ..	Oct 1877	Mar. 1878		2224 0	1396 75½	32 0 0	do do.
Hubaranewewa ..	Dec 1877	April, 1878	...	2165 0	2150 37½	91 0 10	do do.
Tambalagollewewa per spill	Jan 1878	June, 1878		850 0	397 61	.	do. do.
Dachchihamillewewa raising ..	do	May, 1878		454 0	454 0		do do.
Pihimbiyagollewewa per spill .	Feb 1878	June, 1878		850 0	763 47		do do.
Tirapanduwela per spill ..	Mar. 1878	May, 1878		850 0	723 0		do do.
Alugagalawewa	do	do	..	1148 0	887 46	37 2 16	do do.
Palugaswewa ...	Feb. 1878	do		1148 0	1149 0	57 0 10	do. do.
Hiriwadunuwewa ..	do	June, 1878	.	1196 0	973 74	86 2 16	do do.
Kokutiyagallewewa	Nov. 1877	do	.	1165 0	.	.	do do
Maradankadawela ..	Dec 1877	do		1165 0	1165 0	22 2 0	do do.
Dutuwewa No 1 .	Mar 1878	do		1151 0	583 47	65 2 26	do do
Ratmalewewa ..	April, 1878	do	..	1195 0	960 50	28 2 20	do do
Karasagollewewa Kalingala ...				880 0			Commenced
Do. sluice .	Dec. 1877		..	2195 0	.	.	
Thalatalawa	April, 1878	Sep 1878	...	2224 0	1513 34		Completed Expenditure up to 31st July, 1878.
Irunwahamillewewa ..	Feb 1878			1195 0	4[illegible]9 65	..	Spill completed, sluice nearly completed Expenditure up to 31st July, 1878
Urapinuwewa ..	April, 1878	Sep. 1878	.	880 0	317 77	.	Completed do. do.
Galuwaragallawa ...	Feb 1878	..	...	1195 0	435 0	..	Spill completed; sluice nearly completed. do. do.
Urapinuwewa	do.	Sep. 1878	.	1195 0	510 31	...	Completed do do.
Ambalahawewa ..	do.	do.	...	1148 0	356 71		do. do.
Surukulam	...	...	.	1148 0	...	...	Withdrawn by request of Government Agent, as there is a tank (Puddikulam) adjoining, which is sluiced and the outlet of which is considered sufficient to supply the requirements of Surukulam These two tanks are connected by a channel.
Horawapotana ..	June, 1878	June, 1878	..	50 0	50 0	...	Completed.

Name of Tank, Anicut, or Channel.	Date of commencement.	Date of completion.	Amount of original estimate to be repaid by people.	Amount of estimate to be defrayed by Government.	Actual Expenditure.	Estimated Acreage capable of Irrigation.	Remarks.
			Rs. Cts.	Rs. Cts.	Rs. Cts.	A. R. P.	
North-Central Province — *contd*							
Yodi-ela channel ..	April, 1878		.	9474 0	8163 18	...	Deviation bridge and spill at Tissawewa completed, line nearly cleared, and 1½ mile of channel (earthwork) completed. Expenditure up to 31st July, 1878.
Kepitigamawewa ..	Apr. 3, 1875	Sep. 1878		1196 0	1099 18		Completed. Expenditure up to 31st July, 1878.
Hiriwadunnewewa	June, 1878	do		880 0	251 47	..	do do.
Wannamadiwewewa .	...	...	...	1191 0	.	...	Not begun.
Mahakapugollewewa .	Mar. 1878	Sep. 1878		2228 0	429 86		Completed. Expenditure up to 31st July, 1878.
Ambagaswewewa .	Mar. 1878			1195 0	531 52	..	Sluice completed. Expenditure up to 31st July, 1878.
Uragaswewewa			...	1151 0	..	...	Not begun
Dutuwewa No. 2			..	1151 0	604 53	...	In progress. Expenditure up to 1st July, 1878.
Mahakanugollewewa ..				880 0	.		In progress. No expenditure in July.
Ambagaswewewa .	.	..	..	880 0		...	do do.
Dutuwewa		Sep. 1878		880 0		..	Completed.
Nachchaduwewewa .	April	.	.	1195 0	178 3		In progress. Expenditure up to 31st July, 1878.
Relanapaawewa			.	1195 0	...	...	Not begun.
Karambankulamewewa .	.	.	...	1151 0	.	..	do
Rotawewa		..	...	1195 0	.	.	do
Nekatuwewa				1151 0	...		do.
Tarangollawa	.	.	.	1151 0	..	...	do
Galkadawala		..	..	1195 0	..	...	do.
Central Province							
Alutela irrigation channel	Sep. 1868	Sep. 1869	4500 0		4491 15	375 0 0	Acreage from Government Agent's returns
Improving Alutela	June 1878	..	..	1280 0	294 25	.	Expenditure up to 31st July, 1878
			4500 0	1280 0	4785 40		
Buttala irrigation channel .	Nov. 1868	Dec. 1869	10560 0	..	5547 35	793 0 0	Acreage from Government Agent's returns. Part of the work contracted for not completed
Buttala new head sluice completion	June, 1872	Oct. 1872	...	2577 35	7590 0	...	To complete portion omitted before. Actual estimate, Rs. 7,590, which added to previous expenditure = Rs. 13,137 35. Deduct Rs. 10,560 0, balance Rs. 2,577 35
Buttala head works completion	Dec. 1872	Dec. 1872		3145 97	3428 72		Government estimate not sufficient.
Do. do.	July, 1873	Sep. 1873	...	48 0	245 48	.	Completion small extra works, and removing native amuna, rubbish, &c.
			10560 0	6271 32	16811 55		
Horabokewewa .	Nov. 1869	Sep. 1873	6950 0		6693 95	3000 0 0	Estimated acreage
Do. extra works .	Dec. 1872	June, 1873	.	1258 32	4201 28	..	For cutting in front of the sluices
Do. well washing completion .	Nov. 1873	Nov. 1873	...	286 0	284 70	..	Not expected by increased cost of ironwork.
			6950 0	1544 32	11179 93	.	
Kudawewa	Oct. 1869	July, 1870	6010 0	.	5778 89	250 0 0	Estimated acreage.
Do. further works .	Nov. 1870	Dec. 1870	...	970 0	967 48	..	For cutting
Do. extra works ...	Dec. 1872	July, 1873	...	2783 50	2657 40	..	For extra works, consisting of well grating, new angle irons for sluice, and extra earthwork in bund.
			6010 0	3753 50	9403 77		
Anicut across Kurunda-oya ..	Aug. 1877	...	...	1900 0	1874 37		
Reservoir, Barrack Plain, Nuwara Eliya ..	April, 1877	..	...	...	23870 0	..	Not completed.
North-Western Province.							
Magalawewa, Nikaweratiya ..	Sep. 1877	Dec. 1873	...	55740 0	50095 30½	3000 0 0	Acreage estimated to be benefited out of a larger tract. Not executed under Ordinance.
Do. construction of of irrigation channel ..	Nov. 1877	July, 1878	...	9365 0	9365 0	1200 0 0	Necessary for completing the scheme to take water to lands not now cultivated.
Restoring the channel behind the dam Magalawewa ...	April, 1876	Dec. 1877	..	517 0	450 28		
Magalawewa, improvement of spill	April, 1878	June, 1878	....	858 0	857 61	...	Water from one spill damaged the back of the bund.
			...	66480 0	60768 19½		

Name of Tank, Anicut or Channel.	Date of commencement.	Date of completion.	Amount of original estimate to be repaid by people.	Amount of estimate to be defrayed by Government.	Actual Expenditure.	Estimated Acreage capable of Irrigation.	Remarks
North-Western Province.—*contd.*			Rs. Cts.	Rs. Cts.	Rs. Cts.	A. R. P.	
Wenoruwewa, Kurunegala ...	July, 1871	Sep. 1871	9459 50		9418 56	400 0 0	
Do. completion ..	Aug. 1872	Mar. 1873		12603 0	12002 7½	..	Includes works not considered necessary in original plan.
Do. do. ...	June, 1873	Aug. 1873	...	2405 0	2389 59	.	Includes extra spill planks for sluice, extra earthwork, and over expenditure on masonry of sluice
Do. repairing damage done to main spill..	Aug. 1875	Dec. 1875	...	2229 0	2092 11	...	
Do. Bu-ela sluice ...	Mar. 1874	Sep. 1874		979 0	977 97	...	To insert a sluice in the Bu-ela.
			9459 50	17616 0	26880 30½		
Galkulam sluice ...	June, 1869	Dec. 1869	429 92	.	429 92	..	Acreage from Government Agent's returns.
Do. repairs ..	Sep. 1875	..	...	353 0	310 88		First work defective: sluice placed by mistake two feet too high.
			429 92	353 0	740 80		
Kospotu-oya anicut ...	Dec. 1870	June, 1872	14001 50	...	16783 34	300 0 0	Acreage estimated.
Tinipitiyawewa ...	Nov. 1870	do.	30000 0	...	30000 0	1100 0 0	Acreage estimated to be benefited out of a larger tract.
Do. additions ...	May, 1876	Dec. 1876	...	2424 0	2424 0		
Do. repairing outlet sluice	June, 1877	...	..	2420 0	338 6	...	Expenditure up to 31st July, 1878.
Do. extra inlet sluice .	Feb. 1874	Dec. 1874	5000 0	.	4783 83	...	Asked for by the people.
			35000 0	4844 0	37545 89		
Deduru-oya head sluice ..	Mar. 1870	Dec. 1870	4755 0	..	4251 74	1100 0 0	Acreage estimated to be benefited.
Munnesseram channel from the Deduru-oya	do.	Aug. 1873	16525 0		16067 15	...	This and the last are one scheme.
			21280 0	...	20318 86		
Mahauswewa, repairing tank ..	Jan. 1876	July, 1877	..	35215 0	35215 0	1200 0 0	A water-rate of one rupee an acre to be paid by purchasers of lands.
Do. supplementary ...	July, 1877	Dec. 1877	...	2500 0	2312 96		
Do. puddling bund ...	Feb. 1878	...		9130 0	2271 13	..	Necessary on account of leakage under the old bund.
			...	46845 0	39799 9		Expenditure up to 31st July, 1878.
Galgamuwa, construction of sluice and spill ..	April, 1876	June 1877	...	15774 0	15208 34	..	A water-rate of one rupee an acre to be paid by proprietors of lands.
Kurunegala tank, repair of breach	June, 1878	..		4059 0	1094 18	...	Expenditure up to 31st July, 1878.
Inginimitiya village tank, construction of a sluice ...	Dec. 1876	Nov. 1877	..	1088 0	971 71	90 0 0	Repaired on the Village Tank system.
Karambewa do. ...	do.	April, 1877	...	1088 0	1082 65	40 0 0	do. do.
Gallewa do ...	do	Sep. 1877	.	1088 0	1087 5	50 0 0	do. do.
Tammanawa do. ..	do.	Aug 1877	..	1088 0	1085 16	50 0 0	do. do.
Periyakulam do. ..	do.	Sep. 1877	.	1088 0	1084 67	60 0 0	do. do.
Kotukachchiya do. .	July, 1877		...	1088 0	554 28	160 0 0	do. do. Expenditure up to 31st July, 1878
Bandarakoswatta do. ..	Sep. 1877	May, 1878	...	1088 0	1079 0	110 0 0	Repaired on the Village Tank system.
Pennitawewa do. ..	Nov. 1877	Mar. 1878	...	1088 0	1076 34	137 0 0	do. do.
Konkadawala do. ..	Dec. 1877	...	..	1118 0	1195 75	60 0 0	Do. Expenditure up to 31st July, 1878.
Wewagedara do. ...	Sep. 1877	do	600 0	..	697 25	120 0 0	Cost to be paid by villagers on completion of work.
Pambawatawana do. ..	Mar. 1878	May, 1878	...	1088 0	1044 0	82 0 0	Repaired on the Village Tank system.
Mahagalkadawala do. ...	May, 1878	...	...	1088 0	53 77	90 0 0	Do. Expenditure up to 31st July, 1878.
Mediyawe village tank, construction of sluice and spills ..	do.	...	..	10381 0	898 92	600 0 0	A water-rate of one rupee an acre to be paid for ten years by owners of lands. Earthwork to be done by the villagers. Expenditure up to 31st July, 1878.
Mottappettewa village tank, construction of sluice ...	June, 1878	...	...	1318 0	591 62	70 0 0	Repaired on the Village Tank system. Expenditure up to 31st July, 1878.
Bulukadawala do. ...	Aug. 1878	..	..	2236 0	...	400 0 0	Repaired on the Village Tank system.

Name of Tank, Anicut, or Channel.	Date of commencement.	Date of completion	Amount of original estimate to be repaid by people.	Amount of estimate to be defrayed by Government.	Actual Expenditure.	Estimated Acreage capable of Irrigation.	Remarks.
SOUTHERN PROVINCE.			Rs. Cts.	Rs. Cts.	Rs. Cts.	A. R. P.	
Denagama-Ana Weyanwewa tank ..	Oct. 1868	Dec. 1870	18255 0	...	18254 83	2000 0 0	Provides the masonry only. People are to execute the earthwork
Denagama tank formation of bund .	June, 1869	May, 1870	3500 0	...	3499 98	.	Partial estimate for earthwork.
Denagama and Weyanwewa completion of earthwork bund	Oct. 1869	Dec. 1870	26722 0	...	26722 0	.	Remainder of estimate of earthwork.
Do. completion of works	Feb. 1871	June, 1872		3825 25	3825 16		
Do. repairing breach .	May, 1871	Oct. 1872	..	17790 0	17789 88	...	Bund breached by seven floods.
Do. closing breach	July 1872	do.		2750 0	2549 81	.	Estimate for repair insufficient.
Do. construction of a bund	Nov. 1874	Oct. 1876	.	40715 0	4[illegible]714 82		
Do. completing	Nov. 1876	Dec. 1876	..	4645 45	4645 45		
do. supplementary .	April, 1877	April, 1877	...	191 91	191 91		
Do. compensation ..		...	..	400 0	400 0	..	For lands destroyed through the bursting of the bund
Hakmana channel from Gangama ...	Sep. 1872	Dec. 1872	.	1034 0	1033 91	.	Extra work asked for by Assistant Government Agent, Matara
Completing the masonry protecting walling in the flood channel feeding the Weangwewa tank	Nov. 1877	Nov. 1877		721 28	721 8		
Widening and strengthening the channel which feeds the Weangwewa tank	Aug. 1876	June, 1877		4130 0	4129 99		
			42477 0	75602 89	118079 62	.	
Wankadawewa Beralu ..	Oct. 1868	May, 1869	1350 0	.	1349 50	423 0 0	Acreage from Government Agent's return Estimate is only for sluices
Do. repairing masonry works .	May, 1870	Aug. 1870		120 0	120 0	...	Repairs to one of the sluices.
			1350 0	120 0	1469 50		
Kokandura tank and channel	Aug. 1869	Feb. 1871	55000 0	.	54950 29	2000 0 0	Acreage surveyed; originally 2800 acres were contemplated, but this has been found to be impracticable, and now only 915 acres are to be assessed.
Do. extra works .	Nov. 1870	Nov. 1870	...	1215 0	1215 0	...	Extra works claimed by the contractor.
Do. channel completion	Aug. 1871	Oct. 1871	.	4500 0	4499 48		To cover extra cost of blasting much heavier rock cutting than had been anticipated.
Do. repairs to channel incut and deepening channels	Oct. 1874	Feb. 1875	...	4480 0	4487 49	. .	Repairs of embankment, breaches, and cutting out channels to full width.
Do. compensation for lands submerged by tank	Nov. 1875	Dec. 1875		434 0	434 0		
Compensation, Badalakawadenya channel at Kokandura		do. 1875	...	71 0	71 50		
			55000 0	10419 0	65394 76		
Digoda tank	Dec. 1871	June, 1872	2966 10		2966 10	124 0 0	Acreage from Government Agent's returns
Do. compensation ..		..	1183 25	...	1183 25	..	For the land submerged by the tank, not included in original estimate.
Do. repairing ..	April, 1875	Dec. 1875		600 0	1[illegible] 18		
Do. do ...	Sep. 1876	do	.	656 0	6[illegible] 51		
			4149 40	856 0	4984 4		
Halimela tank ...	Mar. 1871	Dec. 1872	40370 0	.	40370 0	7000 0 0	This and the following eight works are for the irrigation of the Gangaboda Pattu, Matara.
Do. repairs to joints in the masonry in sluices lower and channel ..	July, 1876	Nov. 1876	...	250 0	174 76		
Do. completion ..	Oct. 1872	Nov. 1872	5932 0	...	3675 23		
Do. channel to Urapola and Padagala ...	Aug. 1873	Dec. 1874	19873 0	..	19777 88		
Do. extension ..	April, 1875	May, 1875	380 0	...	213 0		
Ellawella tank (2) ...	Dec. 1872	Nov. 1874	80131 0	..	80130 91		
Do. channel cutting and sloping banks	..	...	...	900 0	...		
For completing all extra works necessary for the safety of the Ellawella channel	Oct. 1876	..	...	6800 0	6698 17		
	Carried	over...Rs.	146686 0	7950 0	151039 87		

IRRIGATION WORKS.

Name of Tank, Anicut, or Channel.	Date of commencement.	Date of completion	Amount of original estimate to be repaid by people.	Amount of estimate to be defrayed by Government.	Actual Expenditure	Estimated Acreage capable of Irrigation.	Remarks.
			Rs Cts	Rs Cts	Rs Cts.	A. R. P.	
Southern Province.—*contd.*	Brought forward Rs.		146686 0	7950 0	151039 87		
Ellawella construction of extra works	Sep 1875	July, 1876	1045 0	.	1042 31		
Do. completing ...	Mar. 1876	June, 1876	...	528 0	527 83		
Do. construction of branch to Tombe fields	May, 1875	Dec '87..	710 0	.	623 54		
Do. compensation	July, 1876	July, 1876	644 74	.	616 12		
Sapugoda (3) Urapola anicut (4)	April, 1871	Dec. 1871	4050 0	.	4015 46		
Wooden bridge over the anicut at Sapugoda ...	Sep. 1876	Sep. 1876	...	184 0	168 76		
Urapola anicut completion	Dec 1872	Dec 1873	.	2760 0	2709 18		
Sapugoda channel head sluice (5)	Dec 1873	do.	734 0	...	668 15		
Pettre anicut (6) ..	Oct 1872	Oct. 1875	18729 0	..	18487 94		
Do.	Mar.. 1875	Aug. 1875	...	1300 0	1161 85		
Proposed channels of Pettre anicut ..	...	..	..	5471 53	5422 46		
Alawattegoda anicut (7) .	Feb. 1874	...	16204 0		16202 19		
Do. completion ..	Mar. 1876	Feb. 1878	..	3135 0	3127 48		
Batuwita channel (8) ..	May, 1871	Dec 1872	76120 0	..	16111 97		
Uduwa channel (9) ...	Feb 1872	do.	10200 0	..	10199 40		
Batuwita and U'duwa channel completion	Oct. 1872	Dec. 1874	. .	11696 0	11695 36	...	Completed.
Gabgaboda Pattu Irrigation Works ...	Dec. 1875	Mar. 1878	...	40733 0	37202 33	...	Not completed.
Completing of do ..	Sep. 1876	Dec 1877	..	10143 11	10002 37	...	do.
Do. ...	..	...	...	4473 69	4241 87		
Rebuilding an accommodation bridge over the canal and Urubokka ...	Oct 1876	ov. 1877	...	477 0	477 0		
Dandeniya tank .	Dec 1877	...	...	45279 0	21431 75		
Batuwita, construction of extra works .	Jan 1875	Sep. 1877	..	2480 0	2177 19	.	
Do. compensation for damage done to lands by alteration	...	...	.	109 0			
Anicut and flood channel, Ellawella .	Mar. 1877	Jan. 1878	.	9297 50	8863 6		
Kirama river, Matara construction of two irrigation sluices...	April, 1875	Oct. 1875	330 0	.	308 8		
			215452 74	145896 83	1[illegible]871 [illegible]		
Welella or Hendeniya tank	July, 1875	Nov 1875	789 0		614 96	[illegible] 0 0	Acreage from Government Agent's returns.
Do. repairs ...	April, 1878	..	..	500 0			
			789 0	500 0	614 96		
Tissamaharama tank	April 1875	Nov. 1875		[illegible] 0	[illegible]	[illegible]	Initial estimate for bund only. Work not executed under Ordinance. Water-rate to be levied on lands irrigated.
Bridge over irrigation channel at Mudagastota ...	April. 1876	Sep 1876	.	[illegible]	[illegible]	[illegible]	
Tissamaharama, for raising the external walls of the outlet sluice and for the excavation of two high level channels ...	do.	Dec. 1877		3569 0	[illegible]		
Do. completion ..	Dec 1875	...	.	9740 0		.	
Do. anicut and channel	June. 1874	Dec. 1876		757[illegible] 0	[illegible]		
			.	129[illegible] 0	11[illegible]		
Udukiriwila tank ...	Mar. 1871	Dec. 1872	65960 0	.	654[illegible]	500[illegible] 0	Estimated acreage; but actual amount said to be 2,500.
Do. completion ...	Mar. 1873	Sep. 1873	...	7 54 0	77[illegible]	.	Estimate necessary, owing to design of tank having been altered.
Pitching toe of bund, Udukiriwila	July, 1876	...	...	1091 0	...	...	Not completed.
			65960 0	8845 0	72176 12		
Fixing sluice at Kambroganuwa tank	May, 1878	Sep. 1878	...	840 0	756 9		
Fixing sluice at Kumbalgama tank	June, 1878	...	..	840 0	173 54		
Fixing sluice at Malawewa tank, Naorane	May, 1878	Sep. 1878	...	840 0	797 4		
Fixing sluice at Makewita tank	do.	do.	...	840 0	763 37		

Public Works Department,
Colombo, 7th October, 1878.

A. MURRAY,
for Director of Public Works.

STATEMENT OF IRRIGATION VOTE for 1878.

	Proposed Expenditure in 1878.	Amounts charged against the Vote.
	Rs.	Rs.
Store, tank, and channel at Dandeniya	35,279	35,279
Repairs to Uyanwattewewa tank	2,035	2,035
Irrigation channels under the Magalawewa	5,365	5,365
Culvert and sluice at Horakele	1,221	1,221
Repairs to Maha Uswewa bund	9,130	9,130
Sluices to Village Tanks, North Central Province ...	61,251	55,468
Sluices to Village Tanks, North-Western Province ...	17,341	11,232
Bungalows for Superintendents of Village Tanks	1,450	1,450
Restoration of Ambalama North-Central Province	89,474	89,474
Additional works to Medagamawewa, Kalutara ... -	1,430	1,430
Improving Alut-Ela	1,280	1,280
Repairs to Kadukamamai Tank ... .. -	500	500
Repair of Rogam Bund	12,777	12,777
Cutting a channel to Periyavelli fields, Trincomalee District ...	12,370	12,370
Additional works to sluice and spillwater, Remuna Tank ...	450	450
For repairing damages to the tank at Ellagolla and Tissamaharama ...	1,284	1,284
Raising wing walls and filling in earth at Udakiriwila anicut	1,260	1,260
Improving the spillwater of Magalawewa	858	858
Repairs to Andare tank	500	500
Repairs to Devilane tank	30,000	30,000
Repairs to Chadiantalawa tank	500	500
Repairs to Pulagamawa tank	5,000	5,000
Sluice and spillwaters Medivawe, North Western Province ...	4,745	4,745
For the payment of salaries to Officers employed on Irrigation Surveys	3,000	3,000
For cost of sluices ordered out from England	3,500	3,500
	302,000	290,108
	290,108	
Balance to date ... Rs.	11,892	